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Developments Abroad and the Domestic Economy



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Vol 2

Developments Abroad and the Domestic Economy

ONTARIO ECONOMIC COUNCIL
SPECIAL RESEARCH REPORT

VOLUME 2



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ONTARIO ECONOMIC COUNCIL
81 Wellesley Street East
Toronto, Ontario
M4Y 1H6

Printed in Canada

ISSN 022 5-591X
ISBN-0-7743-5549-2

These papers reflect the views of the authors and not necessarily those of the Ontario Economic Council. The Council establishes policy questions to be investigated and commissions research projects, but it does not influence the conclusions or recommendations of authors. The decision to sponsor publication of these papers was based on their competence and relevance to public policy.

HC
117
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Remarks to the conference

Larry Grossman

The discussions that you are having during this conference relate directly to the economic challenges faced by Ontario and Canada in the years ahead. Today I would like to talk to you about constitutional renewal and the opportunity that it affords us to tackle some of the tough economic questions that must be faced by the Confederation partners in the near future.

The issue of national unity and the debate about what kind of political and economic arrangements we should have in this country touches all Canadians - easterners, westerners, the Québécois, and the people of Ontario. And the one message that appears quite clear in this debate is that no one is satisfied with the status quo.

The people of Quebec have emphatically stated that while they reject sovereignty-association, they do want a new deal in Confederation. The western provinces allege that longstanding federal policies are holding back western economic development. Eastern Canadians are by no means satisfied with the status quo either. After suffering through many years of federal efforts that tried to build industrial monuments in places too distant from markets and resources to survive, the Atlantic provinces now find themselves on the threshold of their own resource boom as the world's leading fish exporter and as the main beneficiaries of potentially huge oil and natural gas deposits off the coasts of Newfoundland and Nova Scotia. They, too, want a greater degree of control over their future.

So each of the units within Confederation is seeking change. But in seeking new arrangements to replace unsatisfactory old ones we must closely examine the basic premises upon which we seek to superimpose change. If we are to succeed in our quest for a strengthened nation and a renewed Canada then we must in fact begin by making a commitment and a conscious decision not only to rework constitutional arrangements but to

build solid economic relationships between the regions of Canada. We need a new set of economic and political relationships that can accommodate our existing strengths across this country - in the Maritimes, in Quebec, in Ontario, and in the West - in such a way that we reinforce each other in a genuine partnership that creates a stronger and more united whole. But the problem has been that in recent years the traditional economic links between the Canadian provinces have been eroding. And, in my opinion it is that erosion of economic links that could, if not reversed, threaten our very survival as a nation.

The disturbing fact is that in recent years strengthened provincial governments equipped with new measures of fiscal freedom and widespread regulatory authority have sought to redress their traditional grievances by erecting interprovincial barriers to trade and by implementing uncoordinated and non-complementary regional economic development strategies. The danger of this is clear: as we become less important to each other economically, we will become less important to each other politically and socially.

I firmly believe that the existence of a strong economic confederation, providing all provinces and regions of Canada with the benefits of the Canadian common market, is in the longer term one of the foundations of a strong and unified political confederation. And I believe that, as we work to rebuild our constitution, to re-fashion the ways in which the provinces and regions of Canada deal together and with the federal government, it is critically important for us to begin to reverse the trend towards greater barriers between the regions of Canada, towards increasing balkanization of what, by world standards, is already a small domestic market.

We all too often forget that the political partners within Confederation are also important economic partners. Ontario is the biggest market for the manufacturing enterprises in other parts of this country. We purchase more than half of all interprovincial shipments originating in the rest of Canada. Equally, almost one-quarter of Ontario's manufactured goods - estimated at about \$13 billion worth - are sold into the other parts of Canada. Twenty-one per cent of Quebec's manufactured goods are sold into the other parts of Canada; 23 per cent of the products manufactured on the prairies are sold into the other parts of Canada; 19 per cent of the total manufacturing output of the Atlantic provinces is sold into the other

parts of Canada. And 15 per cent of BC's manufacturing output is sold into the other parts of Canada.

To give some sense of the magnitude and importance of our economic relationships within this country: the value of Ontario's sales of manufactured products to the Maritimes each year is twice as big as the value of our total sales of manufactured products to the entire European Economic Community, including Great Britain. And our sales to the prairies alone are thirty times as great as our sales of manufactured goods to Japan.

However, despite the magnitude of our economic interdependence it appears as though we have chosen to frustrate what could be a strong national economic system. In fact, Canada's ambassador to the European Economic Community has stated 'that there are now fewer barriers to trade among the countries of Europe than among the provinces of Canada.'

If we are to renew our federal system and create a strong national economy, then a major task facing the first ministers will be to address the fundamental issues of interprovincial barriers to trade, the barriers to manpower mobility, and the barriers to capital flows that have been recently developed in this country. These kinds of barriers and our lack of co-ordinated economic development strategies threaten the very economic framework that is necessary to sustain us as a nation. Canada, in fact, has become so balkanized and so fragmented that we now have situations in which seven provincial governments have adopted narrow province-first procurement policies. And two governments have actually imposed tendering restrictions inhibiting access to provincial contracts for Canadian suppliers outside their province.

- Newfoundland has been restricted from exporting Labrador power to U.S. markets through Quebec because Quebec has held Newfoundland to an old agreement;
- Alberta's Petroleum Marketing Commission has excluded Ontario-based Petrosar from their list of approved purchasers;
- British Columbia applies a 10 per cent preference for government purchasing in favour of local suppliers while giving Canadian suppliers outside the province only a marginal advantage over foreign competitors;
- Manitoba Hydro bought its last hydro electric turbines from the Russians instead of from a Canadian supplier;

- Quebec has adopted tendering restrictions that prevent non-Quebec companies from bidding on most government contracts;
- Some provincial governments require trucks delivering loads into the province to return empty, so they cannot compete with trucking firms within the province;
- Alberta has adopted an industrial permit system that ensures the greatest possible Alberta content in the mega-projects.

In addition to these types of impediments to trade we have recently seen new barriers to manpower mobility that effectively restrict Canadians from moving within their own country.

- Quebec has barred an estimated 3000 eastern Ontario construction workers from working on Quebec construction projects through its permit system;
- Newfoundland has established a registry of workers giving Newfoundlanders first preference on jobs associated with off-shore oil exploration;
- Quebec mineral exploration permits require that employment preference be given to Quebec labourers and mining engineers;
- Professionals and tradesmen are forced to pass tests and meet licensing requirements when they move from province to province in Canada;
- And, finally, last week the Province of Nova Scotia introduced a bill in its legislature that would enshrine the principle of giving first priority for civil service jobs to Nova Scotians.

I do not mean to deride or attack the other provinces for using their own public sector purchasing power to support the development of their own economies. The truth is that we have done the same in Ontario from time to time. I am the first to admit that Ontario has not been entirely blameless in the past. There have been a few cases - albeit very few - where we, too, have chosen to buy from an Ontario manufacturer, over another Canadian manufacturer, even when the firm in the other province offered the most competitive price or terms. That kind of defensive reaction has occurred in every part of this country. But I am far from comfortable with it, and I don't believe that, in the long term, it is an acceptable policy for Ontario - or for Canada.

The fact is we are all going to have to make adjustments if we are to reverse the tide of balkanization and keep the country intact. And that is going to require a large measure of good will on the part of each province. It will require a recognition by the provinces that the central government has an important and crucial economic role to play as the 'senior government' and as the legitimate arbitrator that must act in the national interest.

Looking beyond apparent provincial short-term self-interests is by no means an easy task. In Ontario we are now working to understand the development strategies that other regions of Canada are pursuing. Frankly, this is in many ways a new experience for governments across the country. In the past, all provinces have sometimes allowed themselves the luxury of ignoring the development efforts and strategies that other provinces and regions were pursuing. There is no question today that that is one luxury which neither we, nor any other province, can afford. In an effort to promote interprovincial co-operation my ministry has been and will be doing a number of things.

- In 1974 we established an explicit policy of offering a 10 per cent price preference - not just to Ontario firms - but to any Canadian firm, in public procurement;
- We have built Canadian not Ontario, preference into such major policy instruments as our Employment Development Fund;
- We have established an Interministerial Committee on Government Procurement that is assessing the potential for increasing the use of provincial procurement to promote Canadian, not Ontarian, industrial development;
- We have opened up our Manufacturing Opportunities Shows to all Canadian firms. For example, we invited about 150 companies from other provinces to participate in our recent Pulp and Paper Manufacturing Opportunities Show;
- And we have been identifying prospects for interprovincial procurement agreements on specific products in order to support the establishment of new Canadian industries, not just in Ontario, but anywhere in Canada.

These initiatives are just a beginning. They do not of course yet constitute a comprehensive policy. But we are taking the first steps now

to develop the kinds of policy information that will be needed if Canada as a whole is to re-evaluate the strength of its economic confederation and take real and concrete steps towards the establishment of a Canadian common market. But if we are to succeed, it will be up to all of us - in government, academia, business, and labour - collectively and individually, institutionally and emotionally - to develop a greater understanding of, and sensitivity to, the legitimate aspirations of the rest of Canada. Collectively we must work to share our strengths and build on those strengths for the benefit of each of the partners within a renewed federalism.

But we are going to have to break down the mistrust and the suspicions between us. Perhaps a good place to start that process is at the civil service level. I have proposed in the past that provincial governments exchange senior public servants on a temporary basis to enable all governments to become more familiar with the economic strategies and objectives of their sister provinces. I believe that that first step would be a useful beginning to a new era of economic co-operation between the confederation partners.

The fact is that when you look around the world for places that offer opportunities for the enhancement of economic and social progress, this country is unparalleled. But we can easily miss the opportunity to achieve these advances if we continue to place barriers between us. Although most of the industrialized world, including our major trading partners, are facing prospects of slackened growth. Canada anticipates total capital expenditures of over \$200 billion on oil- and gas-related projects over the next two decades, and an additional \$32 billion on electrical generation projects within ten years. The irony is that Canadians themselves have almost forgotten to look in their own back yards for opportunities.

Although Ontario, with our various aggressive export programs, have been landing contracts in the U.S., Mexico, Europe, and the Middle East, we, like others, have not pursued as vigorously as we should have the phenomenal domestic opportunities afforded us by the western Canadian mega-projects that require manufactured heavy equipment. The energy capital projects - with their huge demand for project engineering and construction management, pipes, valves, pipe fittings, compression systems, construction equipment, prefab buildings, welding equipment, supply and communications equipment, and electrical generating and transmitting equipment - can and should provide tremendous scope for the

established and emerging manufacturing industries of Canada to benefit and to grow.

All too often, unfortunately, materials for the mega-projects are purchased abroad. There is no question in my mind that Canadian manufacturers have the expertise and the capability of supplying much of the equipment now being purchased in other countries. Canadians could, and should, be taking advantage of these phenomenal opportunities to expand our industrial base. The benefits to be gained from broader co-operation are so great that we must work out equitable national approaches to overcome the obstacles.

The east and the west, for their part, want to diversify their economies. We have no quarrel with those aspirations. In fact the major population centres of Ontario and Quebec could supply the east and the west with the necessary markets to support the development of their own specialized manufacturing industries. But to achieve that level of co-operation we must begin to concentrate our efforts on developing complementary as opposed to competitive economic development strategies.

I am not arguing against the establishment of regional economic development strategies. Every province has the right to assess its own economy and adopt its own economic policies. But too often these policies - built upon too narrow an information base and cultivated in the absence of federal leadership - result in fragmentation, interprovincial barriers, restriction of markets and limitations for long-term Canadian growth. The net results are simply higher costs to taxpayers and lost efficiency to industry - both of which we can ill afford.

Surely by co-operating we can use our combined procurement to support specialized production and thus establish economic rather than sub-economic production facilities. Each province, rather than using its own procurement to set up inefficient production units should rather attain specialized and economically efficient production by using the combined purchasing powers of all governments. That combined purchasing power - well over \$20 billion annually, excluding agencies - could be used as an economic development tool that would work in the interests of the nation as a whole. This is certainly not a novel notion. It is now nearly two years since a federal-provincial meeting of industry ministers established a working group to assess the possibility of co-operation among governments in using procurement for industrial and regional development. Despite the

further endorsement of first ministers, we are no closer to a formal agreement on this issue. In fact, the Federal-Provincial Procurement Committee has met only three times in the past two years. That's just not good enough.

I recognize, of course, the difficulty in developing a mutually advantageous procurement deal that meets the aspirations of all the provinces. However, if we can find a procedure that would otherwise be fragmented or imported, it surely must be possible to distribute the industrial benefits in a way that does not come at the expense of a loss of our efficiency or of our international competitiveness. The fact is, a way must be found.

We are asking the federal government to reconvene the Federal-Provincial Procurement Committee as soon as possible so that industry ministers can report our progress to the first ministers during the course of their deliberations on renewed federalism. We are faced with a clear choice: we can, at this critical time in our history as a nation, continue to balkanize our country's economy, or we can develop a unified Canadian common market - with combined interests, shared objectives and mutually beneficial goals. And it will be these issues -

- the issue of interprovincial barriers to trade, manpower mobility, and capital flows;
- the issue of a co-ordinated federal and provincial procurement policy;
- and the issue of complementary regional economic development strategies -

that must in the end be addressed as part of the process of renewed federalism. In that process our political leaders will require the encouragement and indeed the help of bodies such as the Ontario Economic Council. And they will require the encouragement and support of all Canadians if realistic compromises are to be achieved.

Canadian interests and the Tokyo Round trade agreements

John Whalley

INTRODUCTION AND SUMMARY

This paper explores the ways in which Canadian interests may be affected by the recent Tokyo Round of Multilateral Trade Negotiations (MTN) under GATT (General Agreement on Trade and Tariffs), the seventh such round since the founding of GATT in 1947. I also comment on what direction future trade liberalization negotiations may take and what options Canada might pursue.

Together with the preceding Kennedy Round, the Tokyo Round led to the most substantive of the various GATT agreements. The latest agreement consists of:

- modest (in contrast to the preceding Kennedy Round) tariff cuts;
- non-tariff barrier (NTB) codes and changes in existing GATT provisions, the effects of which cannot be accurately evaluated until several years from now (although the general direction is reasonably clear); and
- possible future moves toward the so-called 'new international economic order' between developed and less developed economies (moves that are in all probability of limited significance).

The trade agreement does not cover international investment flows or trade in petroleum products and applies only to a limited extent to trade in agricultural products, textiles, and natural resources.

A broad evaluation is offered from Canada's perspective; I do not

I am grateful to Ron Wonnacott for helpful discussions on the material discussed in this paper. Some of the text draws on earlier work from a project on trade liberalization among major industrialized economies which has been supported by the Ford Foundation.

analyse in detail the implications for each industry in the economy but provide rather an outline of the economy-wide effects. The following are the main points.

- Canada could not realistically have expected to affect materially the major features of the MTN negotiations, which in essence involve the United States, the EEC and, to a lesser extent, the Japanese, although many issues of detail were affected by Canada's negotiating position.

- Since smaller countries have most to gain (in proportion to their GNP) from multilateral negotiations, Canada should maintain a strong commitment to GATT. From a Canadian viewpoint free trade achieved through GATT negotiations is very different from a unilateral move to free trade because protection by our trading partners is also reduced.

- The agreement should be considered a gain for Canada (and indeed for most of the smaller industrialized economies) because Canada has much to gain from the reduction in protection in the larger trading areas (and in particular the United States). What is uncertain about the agreement is whether trade liberalization abroad is real or largely cosmetic.

- Although it is uncertain what the non-tariff barrier (NTB) codes will mean in practice, there is not much that will cause Canada serious problems as a result of sacrificing existing protection. In fact, the Canadian negotiations seem to emphasize what was left out of the agreement in these areas and the interpretations to be used by other countries, rather than domestic adjustment from the resulting liberalization of trade.

- There is danger that the trade liberalization secured under the agreement will be offset by other domestic policies by our trading partners. A clear example is the recent discussion of 'Buy American' legislation in the United States, which would offset the liberalization in government procurement practices agreed to in the Tokyo Round. As a major gainer from the agreement, Canada would be a major loser from offsetting protection of this type.

- While domestic adjustments to trade liberalization are a legitimate matter of concern for Canada, it seems on the whole to be a minor problem that is not sufficient reason for opposing the implementation of the agreement.
- Multilateral trade negotiations over the next decade seem likely to be dominated more by the issues of the north-south dialogue between the developing and developed world than by further liberalization dis-

cussions between industrialized OECD countries. These negotiations seem likely to be conducted outside GATT within a highly charged, politicized environment. This view is based on the observations that: (a) post-Tokyo Round tariffs among the major countries in the Organization for Economic Co-operation and Development (OECD) are so low that further cuts would be largely insignificant; (b) further substantive agreement on NTBs seems difficult in a multilateral framework; (c) the developing world has largely discounted the GATT as a forum in which their interests can be adequately represented.

- Canada cannot have much influence on the north-south debates, which are likely to involve 'bloc-wide' negotiations (OECD vs Group of 77). Although Canada is a member of the OECD bloc she could gain from some of the 'south' proposals (liberalization of world agricultural trade). More important, because the multilateral road to free trade is so difficult, Canada's most desirable option may well be to seek bilateral agreements with her major trading partners, i.e. the United States and the EEC.

On balance then, Canadians should welcome the agreement while recognizing that there will be problems of implementation. Inevitably, one's opinion about the desirability of trade liberalization under the GATT is influenced mainly by whether or not one is an advocate of free trade for Canada. Free traders in Canada generally welcome the Tokyo Round Agreement because they see it as a step closer to free trade; the nationalists are suspicious of it for precisely the same reason. A prominent theme of this paper is that regardless of one's position on U.S.-Canadian free trade, two features of the Tokyo Round agreement have significant implications for Canada: the reductions in American (and other) tariffs, which are more beneficial for Canada than any unilateral move towards free trade; and changes in NTBs (particularly, the government procurement code and the civil aircraft agreement), which are likely to yield significantly advantages for Canada.

The plan of the paper is as follows. A first section outlines the history and structure of the Tokyo Round trade agreement with emphasis on Canada's role and position in the formal agreement. Canadian interests in the agreement are then summarized, and more detailed effects on various sectors and regions are discussed. The next section describes different possible effects of the agreement on Canada. A final section draws

the main arguments together, discusses the form that future multilateral negotiations on trade liberalization might take, and summarizes some of Canada's possible negotiating options.

THE GATT AND THE TOKYO ROUND TRADE AGREEMENT

The recent Tokyo Round of trade liberalization negotiations under GATT is the seventh in a series of negotiations that began in 1947. The resulting agreement has been praised as a major step towards liberalization of world trade, dismissed as probably insignificant and certainly impossible to evaluate, and attacked as a creator of domestic unemployment in the affected industries.

The praise for the agreement as a major accomplishment results from the contrast between the recent and previous GATT negotiations. In the latest agreement a number of new codes have been established and changes in existing codes made, causing some to argue that trade liberalization negotiations have now substantially moved beyond tariff cuts for the first time.

The claims of insignificance stem jointly from the fact that post-Kennedy round tariffs are already low and that further cuts in the Tokyo Round can only be marginal, and from the inevitable vagueness of the agreements on NTBs. Pessimists have dismissed these as ill defined and unenforceable, while optimists applaud them as a bold first step. Concern for affected industries is a standard part of the politics of trade liberalization, although the frequency with which concern is expressed does not provide the pretext for them to be totally dismissed.

While the agreements have been signed or initialled by forty-one countries, and ninety-nine countries participated in the negotiations at various stages, Canada's role and stake in these negotiations is dominated by her trading relationship with the United States. Approximately 60-70 per cent of Canadian merchandise trade is with the United States, smaller shares are with the EEC and Japan. While Canada's interests were not actively represented by the United States in the negotiations, it is fair to say that concessions by the U.S. must be the dominant feature in appraising foreign concessions in the agreement from a Canadian perspective.

TABLE 1

Evolution of GATT and summary of GATT rounds preceding the Tokyo Round

		Percentage ad valorem equivalent tariff rate			
		US		Canada	
		Dutiable imports	Total imports	Dutiable imports	Total imports
1930	Hawley-Smoot law in US- 'highpoint' of retaliatory protection in Depression	53	18	28.5	17.6
1947	Setting up of GATT to extend U.S. bilateral trade negotiations to multi-lateral basis	25	9	17.8	10
1947 to 1956	Subsequent GATT Negotiating rounds				
	Geneva 1947 Binding of Annecy 1949 tariff rates Torquay 1951 and some Geneva 1956 tariff reductions				
1961	Conclusion of Dillon (5th) Round of tariff negotiations under GATT - further modest cuts in tariffs	12	7	16.7	8.2
1967	Conclusion of Kennedy (6th) Round of tariff negotiations under GATT - significant tariff cuts				
1972	Implementation of Kennedy Round completed	8.3	6.2	13.1	9.9
1979	Conclusion of Tokyo Round negotiations but before implementation				
(1978)	Projected tariff rates after implementation of Tokyo Round tariff cuts	5.8	4.3	8.9	6.5

SOURCES: Pinchin (1979, 6) and unpublished data analysis of Tokyo Round tariff cuts by the Special Trade Representatives office in the U.S. Reported tariff rates apply to industrial products only.

The historical background to the current GATT negotiations

Perhaps the most important historical development in the field of commercial policy and international trade since the 1930s has been the transformation of U.S. trade policy from protectionism to (more or less) free trade. A few important exceptions are policies regarding textiles, footwear, pharmaceuticals, and some agricultural products. In recent years this free trade outlook has taken the form of a commitment to GATT and the initiation of two major trade liberalization negotiating rounds through the Trade Expansion Act of 1962, which led to the Kennedy Round agreement, and the Trade Reform Act of 1974, which led to the Tokyo Round agreement. As the United States' largest and most important trading partner, Canada has probably benefited more than any other country from the resulting reduction in trade barriers by the U.S. For this reason one can argue that Canada should have a stronger commitment to the continuation and maintenance of GATT negotiations than any other industrialized trading country. A curious feature of these negotiating rounds is that they are initiated and negotiated by the larger trading blocs but the smaller trading areas are potentially the largest gainers. In the latest round, in fact, the United States found itself in the somewhat paradoxical position of having initiated the Tokyo Round in 1973 but having limited interest in and some misgivings about it as it was being concluded in 1979.

A summary of these negotiating rounds is provided in Table 1. In the early 1930s the United States moved towards a pronounced protectionism, culminating in the Hawley-Smoot Act of 1930, which resulted in several tariffs being higher than 50 per cent. From this position, the United States proceeded to negotiate a number of bilateral trade arrangements with other industrialized countries, including Canada, which led to significant reductions in trade barriers. The creation of GATT in 1947 was seen by the U.S. as a natural extension of those negotiations from a bilateral to a multilateral basis. GATT adopted as one of its main operating principles that continued negotiation should be the way in which further reductions in trade barriers would be obtained, with non-discrimination as the operating basis for all subsequent agreements. This non-discriminatory basis was enshrined in the principle of Most Favoured Nation status, under which a tariff concession to one country becomes a tariff concession to all countries participating in GATT.

The initial GATT rounds were of relatively little consequence; they dealt primarily with the binding of tariff rates because some tariffs represented minimum rates for certain commodities. Little substantive reduction in tariffs occurred from 1947 onwards until the Dillon round of tariff cuts in the early 1960s. A much more substantial set of tariff reductions occurred in the Kennedy round, which were the first tariff negotiations under GATT to receive much publicity. Under the Kennedy round, the initial negotiating position of the United States was that there should be a 50 per cent reduction in all tariffs, a 'linear' cut according to a general tariff cutting formula. This contrasted with earlier rounds which had been dominated by a sector-by-sector approach to tariff reduction; much of the negotiating after the general formula negotiation reverted to a sector-by-sector approach with special treatment for a large number of items. There was frenzied conclusion to the agreement in order to meet the deadline after which presidential authority for the implementation of the cuts would expire.¹ The apparent success of the Kennedy Round for the major industrialized powers provided the impetus for the Tokyo Round, which began in 1973.

An outline of the Tokyo round trade agreement

The Tokyo Round Trade Agreement is a collection of trade agreements between a large number of countries. Forty-one countries initialled the final set of agreements, and ninety-nine countries participated in the trade agreements at various stages.

In spite of the wide participation, the Trade Agreement is the outcome of negotiations between the United States, the EEC, and Japan; Canada's negotiating position was largely immaterial to the main features of the agreement. The Canadian position in these negotiations has fairly consistently been that Canada should participate both as an active member of GATT and as an important if not dominant industrialized economy. On the other hand Canada has accepted the fact that the United States and the EEC will largely determine the outcome of the negotiations. Canada has thus seen herself as lacking any serious options; the agreements are something that Canada has to accept but has very little hope of substan-

1 See the excellent discussion in Preeg (1970, 178-95)

tively influencing.

Although there was some discussion in the earlier phases of the Tokyo Round as to what might happen if Canada was to opt out of the trade agreements, this appears to have never been seriously contemplated. Were a country such as Canada simultaneously to opt out of the agreements and successfully remain as a member of GATT, the operation of MFN status would extend all tariff concessions agreed to by the major trading areas to non-participating smaller countries. Opting out is clearly attractive in that all concessions by foreigners are achieved with no reduction in domestic protection. Opting-out would, however, undoubtedly lead to a change in GATT rules with either expulsion or modification of MFN status. Opting out is not something that any of the economies in a similar position, such as Australia, New Zealand, and some of the smaller European economies that are not members of the EEC, have actively pursued.

The three main parts of the Tokyo Round Agreement are summarized in Table 2. The first specifies tariff cuts that are concentrated in non-textile and non-petroleum manufactured products and average between 25 and 30 per cent, depending upon the trading area involved. These are to come into operation in phased steps over eight years.

In the second part there are non-tariff barrier codes and agreements; how they will operate and what their effects will be are uncertain. In a number of these areas codes have been agreed on for the first time and there is little offered by way of enforcement.

The last part of the agreements contains some possible moves toward the much discussed new international economic order between the advanced industrialized and the developing and less developed blocs of economies. In all probability this part of the agreement is of little significance to either bloc.

Discussions on a 'new framework' for international trade

- Possibility discussed of revising MFN status definition to allow for a more flexible system of trade preferences towards LDCs by industrialized countries than under the generalized system of preferences (GSP).
- Discussion of extension of guidelines on use of trade-restricting policies to restore balance of payments equilibrium.
- Possibility raised of forming international agricultural consultative

TABLE 2

Summary of main features of the Tokyo Round Trade Agreement

Tariff Cuts

- Multilateral tariff cuts averaging around 25-30% on post-Kennedy Round tariff rates and covering most industrial and some agricultural products.
- General guiding formula (so-called 'Swiss formula') for tariff cuts is of the form $t_N = \frac{k \cdot t_o}{k + t_o}$ where t_o and t_N are pre- and post-cut tariffs, and k is a constant in the range 0.16-0.14 depending upon the country involved.
- For the major trading areas of the EEC, the U.S., and Japan; pre-cut industrial tariff rates average around 7%, post cut around 5%. Some of the smaller trading nations (such as Australia, Austria, and New Zealand) with higher tariffs have approximately similar proportional cuts. Of the three major trading areas, the U.S. has the greatest dispersion in tariff rates.
- The timetable for the cuts is over eight years, to begin in 1980. Two-eighths of the reductions are to go into effect between January 1 and July 1, 1980 with six equal cuts to follow on January 1st of each subsequent year.

Non-tariff code changes and agreements

- Custom-valuation: agreed use of consistent market valuation with elimination of administered prices as basis for valuation. The U.S. has agreed to abandon the American selling price and American list price (administered prices for valuation) provisions but will raise tariffs on affected items to compensate for the change.
- Government procurement: agreement to open international bidding for government contract work in all trading areas. The U.S. feels that relative to other large trading areas their current government procurement practices are liberal and so the U.S. should gain from the change.
- Import licensing procedures: agreement to simplify administration and operate procedures in 'neutral and fair' manner. The effect of this is unclear.
- Subsidies and countervailing duties: countries pledge that domestic subsidies will not be administered so as to harm trading interests of other countries, nor countervailing measures against subsidies in other countries be used so as to 'unjustifiably impede' international trade. The effect of this is also unclear.
- Standards: agreement to follow international standards as far as possible for health, safety, and consumer and environmental protection. The effect of this is also unclear.
- Civil aircraft agreement: this is the only separate sector agreement resulting from the sector-by-sector approach common in earlier GATT agreements. Tariffs on most civil aircraft and parts are abolished, and some non-tariff barriers modified on civil aircraft and part by the U.S., EEC, Japan, Sweden, and Canada.

Discussion on a 'new framework' for international trade

- Possibility discussed of revising MFN status definition to allow for a

more flexible system of trade preferences towards LDCs by industrialized countries than under the generalized system of preferences (GSP).

- Discussion of extension of guidelines on use of trade-restricting policies to restore balance of payments equilibrium.
- Possibility raised of forming international agricultural consultative council to oversee price stabilization and stockpiling for selected agricultural commodities; but no concrete proposals made.
- Possible revisions discussed to Anti-Dumping Code but not proposed.

NOTE: The agreement concluded 12 April 1979 covers forty-one countries, including nineteen developing countries, although ninety-nine countries took part in the discussion on the trade agreements at various stages. The major participants are the industrialized OECD countries; the U.S., the EEC, and Japan formed the dominant trading blocs.

SOURCE: Whalley (1980, 7)

Tariff cuts in the Tokyo Round

The tariff cuts in the Tokyo Round agreement have mainly been determined by a general formula that was first pursued in the Kennedy Round. Much of the time involved in negotiating the latest agreement has been taken up with discussion of other formulas. The Europeans raised the issue of tariff 'disparities', on which they had argued long and hard during the Kennedy Round. The Americans argued in favour of a further linear cut comparable, in many ways, to the cut that they had first proposed in the early stages of the Kennedy Round. The Europeans, conscious of the higher dispersion of the tariff rates in the United States compared to the EEC (even though the average is roughly comparable), argued for their non-linear tariff-cutting formula. The U.S. argued for the relative simplicity of a linear tariff-cutting formula. The compromise adopted by the Europeans and the Americans was the so-called Swiss formula, a non-linear tariff cut although not of the same form as the Europeans had originally proposed.

On average, the agreement will result in a reduction in tariffs on industrial products of about 25 to 30 per cent. The cuts are to be implemented over eight years with two-eighths of the cut to come into operation during 1980, and one-eighth on January of each succeeding year. The changes in tariff rates by product are variable across different product

categories. Some idea of the tariff cuts can be obtained from Table 3 where the pre- and post-agreement tariff rates by product are reported using a special data analysis compiled by the Special Trades Representative's Office in the United States. This data has been aggregated onto a number of product categories, which have been used in an evaluation of the Tokyo round trade agreements through a model of world trade involving the EEC, the United States, and Japan on which I have recently worked (Whalley 1980). The numbers reported have been extracted from this data source along with comparable data for Canada.

The average tariff rates are consistent with a cut of roughly 25 to 30 per cent for both the United States and Canada, with some variability by product. An interesting feature of these numbers is that if a mechanical application of the Swiss formula for tariff cuts is made to the pre-agreement tariff rates, then the post-agreement tariff rates are substantially different from the post-agreement tariff rates reported in Table 3. This observation was made by Deardorff and Stern (1979) in their analysis of the effect of the Tokyo Round agreement on eighteen OECD industrialized countries and is indicative of both the extent to which the general guiding formula for tariff cuts has been deviated from and data difficulties in aggregating tariff rates from detailed commodity classifications. A further point of some importance is that the tariff negotiations have been much more detailed than what appears in Table 3. Canada, for instance, has entered into agreements on a tariff line basis that cover as many as 20 000 items. A somewhat flippant, but highly indicative, illustration of this detail is that as a result of the agreement the U.S. tariff on carrots contains differential rates depending upon whether the carrots are over or under four inches long.

Non-tariff barrier agreements

This part of the agreement has six parts, which are listed in Table 2. In the first of these, custom valuation procedures have been changed to consistent market valuation for the determination of tariffs. Two different changes are involved here. From the American point of view, there is a sacrifice of certain artificial valuation procedures in the calculation of tariffs. The American selling price and American list price system have long been infamous as an administered rather than a market price for the

TABLE 3
Pre- and post-Tokyo Round ad valorem tariff rates, by product and by trade area

Industrial and product Category	Canada		EEC		U.S.		Japan		b	
	Applied rates						GATT rates ^a		applied rates	
	Pre (1976)	Post	Pre (1976)	Post (1976)	Pre (1976)	Post (1976)	Pre (1976)	Post (1976)	Pre	Post
<u>Agriculture</u>										
Meats and dairy products	4.8	4.1	1.0	0.8	6.0	4.1	10.4	9.9	7.9	7.2
Cereals	2.6	2.5	5.0	3.3	3.1	2.8	11.3	10.9	0.4	0.9
Other agricultural products										
fruits, vegetables, oil										
seeds, nuts, animal feed,										
crude animal and vegetable										
materials, silk, wool,										
cotton, jute and vegetable										
fibres	3.2	2.6	4.9	3.4	1.8	1.7	15.8	14.7	14.9	14.5
Forestry and fisheries	3.5	2.5	1.9	1.2	0.5	0.4	6.4	5.7	6.3	5.7
<u>Mining</u>										
Coal	0.0	0.0	0.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Oil, natural gas	0.0	0.0	0.0	0.0	4.0	4.0	11.0	11.0	0.0	0.0
Metallic, non-metallic, and other	0.6	0.4	0.3	0.2	0.3	0.1	0.3	0.1	0.9	0.7

Manufacturing

[illegible]

TABLE 3 (continued)

a These high tariffs partially reflect the use of tariffs rather than excise taxes in Japan for so-called 'merit items'. These items are heavily taxed on the EEC and the U.S. and should not simply be interpreted as part of a harsher protective posture by Japan relative to the U.S. and the EEC.

b The difference here is between the GATT-bound rates (primarily upperbounds) and the rates applied and expected to be applied after the agreement. The difference in these two rate schedules is pronounced for Japan.

SOURCE: 1976 Tariff Data on SITC classification provided by the Special Trade Representative's Office, U.S. Government. Data for the EEC, U.S., and Japan appear in Whalley (1980).

determination of tariffs, and these are to be abolished.² The Americans are increasing tariff rates on affected products (in particular, footwear and pharmaceuticals) to compensate for this abolition. From a Canadian point of view the abolition of the 'wine gallon' method of assessment for duties on spirits may prove in the long run to be advantageous. Along with the end of the use of administered prices, there will be further changes in the valuation methods: the one now used will be replaced by a standardized use of a 'fair market value'. The effect of the latter change is relatively small since countries reducing tariffs as a result of valuation changes can offset with increased tariffs.

The second portion of the non-tariff codes of the agreement consists of changes in government procurement policies. The agreement seeks to open all government contract work involving goods (but not services) to a clearly defined procedure of international bidding. At present there is widespread suspicion that preference is given to domestic suppliers in all government contract work. In the U.S. the federal government allows a 12 per cent cost differential advantage to domestic producers. While there is no similar legislated advantage to domestic producers in Japan and the EEC, the general impression is that government procurement practices in these countries are (effectively) a complete ban on foreign contract work except in cases where no domestic product is available.

From the U.S. point of view, the changes in government procurement practices are seen as potentially the major source of gain in the whole agreement; this applies particularly to government contract work in Europe. The Canadian stake in this code change is also significant. This change is potentially a large gaining proposition for Canada simply because of the size of the government contract work in the U.S. and the elimination of the 12 per cent cost differential. An important point in the discussion of changes to the government procurement code is that the trade agreements are only entered into by federal governments, and that selected federal agencies are excluded. Telecommunications, for instance, is excluded, although Canada would have preferred to see it included. Within Canada, the provincial governments are not directly affected by the

2 See Grubel and Johnson (1967) whose data for two case studies suggest that as an approximation the American selling price system more than doubles the effective tariff on pharmaceuticals and other items.

operation of the Tokyo Round codes, nor are state governments in the U.S.

These changes in government procurement practices are, in the opinion of some, the most significant part of the whole Tokyo round agreement. Estimates produced in the United States suggest that within three or four years the changes in government procurement practices alone could have an effect on trade flows between major industrialized economies larger than or comparable to the effect of all the tariff cuts in the trade agreement.

From a Canadian point of view, however, the threat of complete or partial offset of the procurement code must be viewed as a serious negative development. The recent proposal in the U.S. for the 'Buy American' legislation in Congress would restore a 10 per cent cost differential to domestic producers in government contracting and in effect negate this portion of the agreement.

Consolidation of import licencing procedures provides the third part of the non-tariff barrier codes with an agreement to simplify the administration of licensing schemes and to operate the administrative procedures in a 'neutral and fair' manner. Licences are divided into 'automatic' and 'non-automatic' licences. Import licences that are granted automatically are now governed by an agreement that they will not be made 'non-automatic'.

The importance of this licencing code is extremely difficult to evaluate. At first sight it applies only to purely administrative matters such as ease of access to forms and the speed with which governments process applications and grant permits to import. While this may seem a rather petty matter, the impression is widespread in North America that less developed and developing countries and to some extent the Japanese use import licencing as a way of protecting domestic industries. A frequent complaint is that the procedures are complicated and difficult to understand and take a long time. The Japanese have consistently denied that this is the case. One objective of the code is to have an undertaking well established that no country will use administrative procedures to protect domestic industries. Whether this will, in fact, be the case is very difficult to determine ahead of time, but it is hard to see that the code can be harmful to Canadian interests.

The codes on subsidies and countervailing duties, the fourth portion, contain a pledge that domestic subsidies will not be operated in such a way

as to harm the trading interest of other countries; and measures against subsidies in other countries are not to be used to unjustifiably impede international trade. It is expected that Canada will gain from the U.S. agreement to apply a test of determination of material injury before adopting countervail.³

This is a difficult and delicate area especially as there is no definition of subsidy in the agreement although any subsidy can in principle be countervailed. The agreement does list about twenty types of export-related subsidies that are banned. The difficulty in definition has already arisen in U.S.-Canadian trade: incentives offered by federal and provincial governments have been attacked by the U.S. government on the grounds that they constitute a subsidy. How this code will operate in practice is, like the other NTB agreements, hard to determine, although it does offer some support to any country that wishes to accuse trading partners of using unfair subsidies. Disputes outside of U.S.-Canadian trade seem certain to arise in trade in steel involving European and Japanese companies and trade in civil aircraft, where the complaint is frequently made that the European airbus consortium receive substantial subsidies. Within U.S.-Canadian trade the Michelin case provides the threat of countervail against 'subsidized' Canadian exports, and the new agreement, if anything, strengthens the position of the country claiming justification for countervail. The implication would seem to be that regional policy in Canada could be made more difficult by the new code.

In the area of standards, the agreement is that common international standards will be used as far as possible for health, safety, protection of consumers and the environment, and for other regulatory objectives and will be operated in such a way as not to impede trade unduly. Again, the significance of these changes is difficult to measure although Canadian negotiators believe that Canada has more to gain than lose. There are many complaints (again frequently against the Japanese) that standards are operated in such a way as to protect domestic industries. Usually when these complaints are made they are fiercely denied, and the quantitative significance of this code, like that on import licensing procedures, is hard to determine.

3 However, tax preferences given to subsidiaries of American parent companies through domestic import sales corporations are not subject to countervail.

The last portion of the non-tariff barrier code changes applies to the civil aircraft agreement, which is the only separate sector agreement. This portion of the non-tariff barrier codes is likely to be very important because it will remove a 5 per cent tariff and offer tariff-free trade in all civil aircraft and parts. Canada appears to have much to gain because she is a substantial net exporter of these articles. Fighter aircraft are excluded, and the recent federal purchase agreement is in no way affected.

The new international economic order

The last part of the Tokyo Round agreement relates to the frame-work for the so-called new international economic order (NIEO). However, little is proposed compared to the demands of less developed countries made in the negotiations on the NIEO under way in the United Nations Conference on Trade and Development (UNCTAD).

During the negotiations the possibility was discussed of revising the MFN status definition to allow for explicit trade preferences towards less developed countries by industrialized countries. This provision would legalize the generalized system of preferences (GSP), under which certain products would have lower tariffs if they were imported from specified less developed countries. There are no details in the agreement about how the MFN status redefinition would work.

There was also discussion during the negotiations of extending the guidelines on the use of trade-restricting policies in order to restore balance of payments equilibrium so that it would be more difficult for countries to justify trade-restricting policies with balance of payments arguments. At the same time specific relaxations would be given to developing countries.

A further issue (of some significance for Canada) that was discussed during the negotiations was the possibility of forming international agricultural consultative counsels to oversee price stabilization and stock piling for selected agricultural commodities. Commodity price stabilization has been one of the most active subjects of negotiation in a New International Economic Order under UNCTAD and it thus seems implausible that an agreement in this area would emanate from GATT rather than UNCTAD.

CANADIAN INTERESTS AND THE TRADE AGREEMENT

Canada emerges from the Tokyo Round Trade Agreement with tariff cuts of about 25 to 30 per cent along with comparable cuts made by Canada's major trading partners including the United States. The argument from trade theory would be that as a relatively small country Canada will gain more from reductions in other countries' tariffs on Canadian exports than she will lose through reduced protection.⁴ Indeed, advocates of the view that Canada is a small, open, price-taking economy would applaud any reduction in Canadian tariffs and doubly applaud any corresponding reduction in U.S. tariffs as a welcome bonus that the United States is perhaps a little silly to give away. Many issues complicate this generalization, not the least of which are adjustment problems and regional issues, but the potential benefits from the reduction in the U.S. tariff are still likely to dominate even when other complications are allowed for.

In addition to the tariff cuts, a number of non-tariff code changes affect Canada directly. On customs valuation Canada has something to gain, particularly as a result of the relaxation of administered prices in the U.S., and on government procurement we have much to gain. On import licensing Canada should gain if there is a lessening in use of these devices by her trading partners as an administrative barrier to trade. Standards do not seem to be a major issue for Canadian-U.S. trade; the civil aircraft agreement is a gaining proposition for Canada; there is little of any significance in the discussions on the new international economic order for Canada.

Subsidies and countervailing are perhaps the only source of difficulty for Canada in agreements on NTBs, even though the adoption by the United States of a proof of material injury requirement prior to application

4 The question whether or not Canada is indeed a small, open, price-taking economy has recently been examined in the journals (see Appelbaum and Kohli 1979). One of the paradoxes that emerges from compendia of price elasticities in trade is that 'small' countries appear to face surprisingly lower export price elasticities than would be expected in a small, open, price-taking economy. Stern, Francis, and Schumacher (1976) in their compendium of trade elasticities by country report a 'best guess' export price elasticity for Canada of -0.79 compared to -1.41 for the U.S. This evidence would seem to be against the small, open, price-taking formulation for Canada, although there is substantial debate on the specification bias in these types of estimates.

of a countervailing duty is clearly advantageous. The involvement of federal and provincial governments in Canada in trade-related activities seems more extensive than in the U.S., and the danger of successful appeal for countervailing duties in the U.S. on the basis of domestic subsidies is greater since the agreement than before.

It is significant that Canadian negotiators seem to have been as concerned by what has been excluded from the agreement as what is included. There has been no revision of Article 19 on safeguards. Here Canada wanted to ensure that only limited selectivity would be possible under safeguard provisions allowing sudden market disruptions to be offset by quotas or surtaxes. One cause for Canada's concern was the recent UK quotas on synthetic fibres that singled out Canada. More generally, Canada was strongly in favour of a GATT agreement on quantitative restrictions, but this was not included in the agreement. The complaint has been widespread for some time that EEC countries often violate GATT rules through their application of quotas. Another matter on which no agreement was reached was 'security of supply'. The U.S. wanted an international code in order to prevent the disruption of vital supplies although the usefulness of such an agreement without OPEC participation is hard to imagine. Canada and the U.S. were in some disagreement on the operation of such a code, and further discussion has been postponed.

Several issues remain in my evaluation of the agreement from a Canadian perspective, not the least of which is the effect on different regions. The Canadian tariff has been a source of contention between regions in Canada since Confederation. The complaint frequently heard is that protection in Canada is in the interests of Ontario and Quebec at the expense of the rest of Canada.⁵ If that is true then the tariff cuts in the agreement may be a net gain to regions other than Ontario and Quebec, a gain that compounds any gains that accrue to these regions from reductions in protection abroad. This benefit to certain regions of the country may be offset by the strengthening of the code on subsidies and countervailing. Any federal support to industries, in the Maritimes or

5 See the discussion in Pinchin (1979, 47), who suggests that as a result of the tariff the Atlantic and Prairie Provinces and British Columbia may lose an amount slightly less than 1 per cent of income, and Ontario and Quebec may gain slightly less than $\frac{1}{2}$ per cent of income (using data for 1970).

elsewhere, that are engaged in export faces an increased probability of provoking countervailing duties in the U.S. This could offset a portion of regional policy and be harmful to the 'have not' regions. Outside of that, the agreement seems to entail some weakening of the protected position of Quebec and Ontario manufacturers.

EVALUATION OF THEORIES OF THE AGREEMENT FROM A CANADIAN POINT OF VIEW

The significant feature of the trade agreement, which has been stressed already, is that it is a clear move towards free trade but is accompanied by changes in the protectionism pursued by Canada's trading partners. In this section a number of different scenarios are set out from which the agreement can be evaluated.

Canada as a small, open, price-taking economy

If Canada is viewed as a small, open, price-taking economy in its trade with the U.S., then Canada takes relative prices of traded goods as given and has no control over its terms of trade. By the definition there is no point having a tariff in Canada because the tariff cannot change Canada's terms of trade and Canada is better off without a tariff than with it. This view is espoused by the advocates of free trade for Canada. Because of the terms-of-trade loss to Canada that the U.S. tariff causes, an equally (if not more important) objective is to secure reductions in foreign tariffs since these can substantially affect Canadian welfare. Thus, any action that can reduce the tariffs of the trading partner is to be actively pursued.

Advocates of the small, open, price-taking view of the Canadian economy therefore welcome both a reduction in Canadian tariffs because this removes distortions in the domestic economy, and also reductions in the tariffs of the trading partners that improve Canada's terms of trade.

Scale economies and freer trade

Another model of trade emphasizes trade in manufactured items between Canada and the U.S. and the opportunities offered by freer trade for

increased specialization. This view underlies the calculations by the Wonnacotts (1967, 1975, 1980) of the possible large gains from free trade between Canada and the U.S. This formulation of trade has not been widely explored in the theoretical literature on international trade, but its advocates reach the same qualitative predictions as traditional trade theory while suggesting that the quantitative effects are much larger than many people suppose.⁶ They stress the importance of reductions in the U.S. tariff since it allows increased specialization in Canada. The tariff reduction in Canada is important but secondary to the reduction in tariffs by the (large) trading partner that allow increased specialization to occur.

Domestic industry adjustments

An argument against the tariff cuts is that the adjustment costs of domestic factor reallocations that accompany multilateral trade agreements are so large that the long-run gains from trade liberalization are more than outweighed by the short-run costs of adjusting between the industries that lose and the ones that gain. It is hard to evaluate realistically the size of the short-run adjustment costs and it is also clear that there are substantial interprovincial effects. Quebec, and perhaps to a lesser extent, Ontario appear to be the provinces that will lose most as a result of the reduction in protection on manufactured goods. The view of many researchers in international trade is that the effects of the adjustment that accompanies trade liberalization are overstated. This is a conclusion of Baldwin, Muthi, and Richardson (1980) in their recent work on the United States. There are always industries that are adversely affected, and understandably, strong representations are made on their behalf that question the wisdom of trade protection concessions, but the total effect on the whole economy appears quite small. Adjustment issues present the

6 In their original calculations Wonnacott and Wonnacott (1967) estimate a gain of $10\frac{1}{2}$ per cent of GNP from Canadian-U.S. free trade, with the larger portion accounted for by the abolition of U.S. protection and a smaller portion from removal of Canadian protection. In a later paper (1975) these estimates were adjusted downward to around 7 per cent of GNP. These estimates of gains contrast with those produced by more conventional constant-returns-to-scale models. An example is provided by the calculations by Scitovsky (1958) of the gains from formation of the EEC, assuming constant returns to scale, which were in the region of one-twentieth of 1 per cent of Community GNP.

policy dilemma of gainers and losers; if the gains of the gainers outweigh the losses of the losers then it should be possible (though not easy by any means) to arrange for compensation.

The importance of reciprocal cuts

The importance of the reductions in trading partner protection has been stressed in this paper, but with that view of the agreement it is important for Canada to concentrate on the reductions in foreign countries' protection rather than on the effect on Canada of reductions in Canadian protection. The discussion in Canada has, perhaps tended to dwell on the effect on the domestic Canadian economy of reductions in domestic protection rather than to focus equally on the possible gains from the reduction in protection abroad.

MODELLING EVALUATIONS OF THE AGREEMENT

While this paper seeks to represent some broad evaluations of the potential effect on Canada of the trade agreement, it also seems worthwhile to summarize the findings from a number of modelling attempts to evaluate both the agreement and trade liberalization for Canada. A number of different empirical models of world trade have been formulated in recent years and have both directly and indirectly provided estimates of the consequences for Canada and other trading areas that might follow from the Tokyo Round trade agreement or trade liberalization of a comparable form.

In the Canadian government an ambitious modelling attempt has been undertaken by the Department of Industry, Trade and Commerce (1977). These calculations show long-run gains to Canada from the trade agreement. The primary source of the gain in these calculations is an assumed productivity gain from both increased specialization and competition, the same form of assumption that underlies the calculations used by the Wonnacotts to assess the process of increased specialization.

In other models, calculations using general and partial equilibrium models that assume no productivity effects have been used to estimate effects of different forms of trade liberalization on the economic welfare of various trading areas. Canada appears directly in most of these calcu-

lations. Estimates from a number of these studies are reported in Table 4 as gains to static welfare either in 1973 billion dollars or in percentages.

The most noticeable feature in all of these calculations is how small the effects are for both Canada and other countries. Some calculations from the Kennedy Round reported by Balassa and Kreinin have been projected into 1973 billion dollars where a gain for Canada is reported of 0.07 billion dollars. In 1973 the Canadian GNP was more than 100 billion dollars and the estimated gain is a tiny fraction of GNP. In the Brookings study by Cline et al. the effect of a 60 per cent linear cut in 1973 tariffs produces static annual welfare gains of about 0.2 billion dollars for Canada. Boadway and Treddenick produce the interesting result that Canada loses from a tariff cut if the export price elasticity is small enough. This result occurs because of a terms-of-trade movement against Canada. When the export price elasticity is high Canada gains from the removal. In a recent paper, Deardorff and Stern evaluate the Tokyo Round trade agreement and produce welfare gains for Canada of 0.2 billion dollars. The final model is that of Brown and Whalley, which examines the tariff-cutting proposals in the Tokyo Round for a general equilibrium model of world trade between the EEC, the United States, Japan, and the rest of the world. The model does not explicitly include Canada although there is some confirmation of the results obtained by Deardorff, Stern, and others for other countries. An interesting finding in this paper is the terms of trade effect against the rest of the world (and primarily less developed countries) from the expansion in world trade in manufactured products that the agreement produces.

A summary view from these models is thus that there will be a small gain for Canada if the productivity effects of the tariff cuts are included and if large terms-of-trade effects against Canada are ruled out. Productivity effects are likely to be the most important result of the tariffs, but they are harder to measure.

FUTURE NEGOTIATIONS

With the current round of the trade negotiations behind us, a last question is what the future may hold for Canada in any future multilateral trade negotiations.

In the short run there is likely to be no immediate move to further

TABLE 4
Annual welfare estimates (ignoring productivity effects) of multilateral tariff cuts produced by a sample of models

Balassa and Kreinin (1967) Kennedy Round: Approx. 50% cut on 1960 industrial tariffs.
- variant assuming fixed export prices

<u>Country</u>	<u>Welfare gain in 1973 \$bill</u>
U.S.	0.230
Canada	0.066
EEC (of the 6)	0.048
UK	0.086
Continental EFTA	0.040
Japan	0.032
Total	0.502

Cline et al. (1978) 60% linear cut on 1973 industrial tariffs including and excluding textiles.

<u>Country</u>	<u>Welfare gain in 1973 \$bill. (including textiles)</u>	<u>Welfare gain in 1973 \$bill. (excluding textiles)</u>
U.S.	0.904	0.447
Canada	0.224	0.162
Japan	0.277	0.264
EEC (9)	0.489	0.412

Boadway and Treddenik (1978) Welfare change for Canada from elimination of Canadian tariff (1966 data)

<u>Export price elasticity facing Canada</u>	<u>Percentage change in welfare index</u>
- 1.0	-1.16
-10.0	-0.01
-25.0	+0.04

Deardorff and Stern (1979) Tokyo Round Agreement: Approx. 30% cut on 1976 industrial tariffs.

<u>Country</u>	<u>Tariff cut welfare gain in 1973 \$bill</u>	<u>Tariff cut welfare gain + gains from changes in NTBs (Variant 1)</u>
U.S.	0.561	0.792
Canada	0.232	0.226
EEC (9)	1.077	1.304
Japan	0.374	0.124
18 major OECD countries	2.050	2.629

Brown and Whalley (1980) Swiss proposal formula tariff cut for Tokyo Round (excluding textiles)

<u>Country</u>	<u>Welfare gain in 1973 \$bill</u>
EEC	1.45
U.S.	0.81
Japan	0.45
Rest of world	-1.72

GATT negotiations simply because the transitional arrangements for the existing agreement will not be complete until 1987. If previous rounds are any guide then, it seems clear that no further negotiations will start until the present agreement has been implemented.

At the end of this sequence of transitional arrangements tariff protection will have been reduced to such low levels that the effects of further reductions in tariffs are negligible. It seems clear that as small country Canada has much more to gain from reductions in tariffs in major trading countries than would a larger country that could retaliate against foreign tariffs. Canada should thus try to preserve these low tariffs in world trade through future GATT negotiations. Canada should also clearly express interest in further negotiations that presumably would concentrate more on reducing non-tariff barriers.

In all probability, however, the dominant issue in all discussion of future multilateral trade negotiations will be the less developed countries, which have been largely excluded from most of the GATT negotiations, which are focused on protection in industrial products. One of the features of the Tokyo Round and other GATT rounds has been the limitation

to (effectively) non-agricultural, non-raw material industrialized products, and the reduction in industrial tariff has, if anything, worked to the disadvantage of less developed countries. Since world markets in industrial products have tended to expand with cuts in industrial tariffs, this expansion has tended to depress prices of agricultural products and has inflicted a terms-of-trade loss on less developed countries. Thus less developed countries as a bloc are likely to have an increasing influence on future trade negotiations. This, conceivably, could be advantageous to Canada because of Canada's large agricultural exports, although as a member of the group of industrialized countries Canada will be forced to negotiate as a member of this bloc.

Developments in this area are likely to be very rapid indeed. It is fair to say that the less developed countries may have 'given up' on GATT and see global 'bloc-wide' negotiation within the United Nations as inevitable. In September 1980 a UN session will debate a global economic report and will draft codes of conduct on trade, international finance, and foreign investment. At a recent UNIDO conference the less developed countries called for 25 per cent of the world's manufacturing to be located in LDCs by the year 2000 along with a debt write-off of some \$300 billion over the same period. The prospect therefore is that world-wide UN negotiations will supersede GATT, which is dominated by the issues of the 'north-south' dialogue. GATT will be less important than at present since negotiations will be between large blocs of countries. Canada can thus be expected to have even less influence on this process than at present and may be well advised to seek bilateral accommodations with her dominant trading partners (the U.S. and the EEC) rather than trust to future multilateral negotiations.

CONCLUSION

This paper has outlined the recent Tokyo Round trade agreement under GATT and has explored Canada's interests. Canada will probably be a significant gainer from the agreement although what the agreement may mean in practice will have to await the test of time. I have distinguished between trade liberalization through multilateral agreements (as in the Tokyo Round) and a unilateral move towards free trade because the former reduces protection by trading partners. The reductions in protection by

larger trading partners (particularly the United States) in the agreement are stressed as providing significant advantages for Canada that more than offset possible adverse effects from reduction in domestic protection. This holds both for the tariff changes and, from what seems to be the case, for the NTB Codes. Indeed, free traders would argue that gains accrue from removal of domestic protection in Canada and that they compound the gains from reductions in partner protection. Possible disadvantages in the agreement are the domestic adjustments that the reduction in protection involves and the increased probability of use of countervailing duties, which could partially offset part of regional policy in Canada. Neither of these is a serious disadvantage. The future of GATT negotiations is uncertain; I have suggested that multilateral trade issues in the next decade are likely to be dominated by the so-called 'north-south' dialogue. Canada cannot realistically expect to influence this process and may be best advised to forsake the multilateral road to free trade and seek bilateral agreements with her major trading partners (the United States and the EEC).

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Carl R. Neu

Professor Whalley has given us a clear and, I think, realistic appraisal of the results of the Tokyo Round negotiations, and I have no substantive disagreements with his presentation. What I would like to do is to extend Professor Whalley's speculations about future trade negotiations. The future holds, I think, some interesting challenges for makers of trade policy in all nations. And although I am treading on dangerously thin ice - for my knowledge of the Canadian economy is not extensive - I will discuss one of these challenges that could be of particular importance for Canada.

For a number of reasons, I think it is unlikely that the near future will see another large-scale round of multilateral trade negotiations like the Tokyo Round. Indeed, I would not be surprised if there were never another such round. It will take years for the results of the Tokyo Round to be fully implemented and evaluated, and it seems unlikely that

further negotiations would begin until we know what we have accomplished in the last round. More important, though, the kinds of issues best dealt with in this sort of forum are not likely to be the issues that will be most pressing in coming years. Tariff levels are already quite low by historical standards and there seems little more to be gained by further across-the-board decreases. Similarly with non-tariff barriers, I think the Tokyo Round has done a great service by formulating a set of general principles governing the conduct of international trade. I doubt, however, that there is likely to be much progress made by further multilateral negotiation. The focus will instead shift to bilateral negotiations between individual countries or small blocs of countries as particular countries try to come to grips with what the general principles subscribed to in the Tokyo Round mean in specific cases. The difficult problems of quantitative trade restrictions - 'voluntary' or otherwise - are not likely to be solved by multilateral negotiation. The failure of the negotiators in Geneva to reach agreement on a safeguard code is evidence of the complexity of this issue and the divergence of interests among participating countries. Any agreements that are reached will be, I think, very limited and will apply only to specific countries and products.

Even with regard to economic relations between the developed and developing world, I do not see much prospect even for the kind of 'bloc-wide,' north-south negotiations that Professor Whalley foresees. The developing countries with the most to gain from improved access to markets in developed countries - Brazil, Korea, Mexico, Taiwan, the Philippines, and other relatively advanced developing countries - have less and less in common with the poorest less developed countries (LDCs). In particular, because these newly industrialized nations are highly dependent on foreign investment and financing, I think that it is unlikely that they will associate themselves with the increasingly strident - and to investors, increasingly frightening - demands of the poorer nations for a new international economic order. I expect instead that these relatively rich LDCs will individually seek bilateral accommodation with individual developed countries. Such accommodation is certainly possible, perhaps even likely, in the aftermath of the Tokyo Round agreements. The reforms of the GATT framework agreed to in Geneva explicitly allow signatory governments to give preferential treatment to LDCs without having to make the same concessions to developed countries. These reforms also reaffirm the

GATT principle that the LDCs are not expected to make fully reciprocal concessions to developed countries.

Having now given reasons why I do not think we will see another round of GATT trade negotiations, I would like to raise a difficult issue for trade policy that might actually require such a multilateral round of talks. There has been a growing tendency in the past few years for pairs of countries to conclude special bilateral trade agreements whereby each party to the agreement undertakes to purchase a specified amount of the other's products. These agreements can take a variety of forms. At one end of the spectrum are agreements, usually involving small volumes of trade, through which a private firm will agree to build a plant in a developing or a centrally planned economy and to accept subsequent output from the plant as payment. Such arrangements have been common for a number of years, particularly between Western European multinational corporations and the governments of Eastern European countries.

The newer phenomenon has been the conclusion of much larger-scale agreements between two governments. These have been most common between the governments of industrialized nations and the governments of oil-exporting countries. Japan, for example, has entered into agreements with both Iran and Iraq (the Iranian agreement has presumably lapsed) committing it to buy specific amounts of oil from those countries over the course of several years and requiring the two oil-producing countries to purchase Japanese equipment and services in amounts equivalent to the value of their oil exports to Japan. Similar arrangements have been concluded between Japan and Mexico and between France and Mexico.

These arrangements (which have been referred to as examples of the new 'bilateralism' have been criticized as placing some international economic transactions beyond the influence of market forces and, as such, constituting important obstacles to fair and open international trade. In essence these arrangements reserve some fraction of a nation's total imports for particular countries. Products from other nations not party to bilateral arrangements can be displaced, even if these products are cheaper than those that the importer has agreed to buy. Because these arrangements usually extend over several years - in some cases, as many as ten - they can freeze the shape of at least a part of world trade flows not matter how economic conditions may turn out in the future.

It has sometimes been pointed out that in entering into such arrange-

ments governments are only procuring for their citizens the kinds of advantages large multinational firms have been enjoying for years through similar long-term trading arrangements. But because many of the new bilateral arrangements, especially those involving larger volumes of trade and extending over longer periods, are concluded through government-to-government negotiations rather than through private commercial channels, there is growing fear that such arrangements may mark excessive governmental intervention or that they may be concluded for political rather than for economic reasons.

While all nations would presumably be better off if all international transactions were subject to market forces, there are strong incentives for individual countries to enter into such arrangements. Developed nations may find in such arrangements an opportunity to gain an advantage over other countries by tying up some part of lucrative, fast-growing export markets. This may be a prime motivation for such arrangements with Mexico. For the developing countries and for the centrally planned economies, these arrangements provide means of financing industrial development outside the normal channels of international lending. Indeed, the original reason for these arrangements lay in the difficulties encountered by some nations in finding conventional commercial financing for the installation of new plants and equipment. By entering into what were essentially barter arrangements with firms in developed countries, the industrializing nations sidestepped the need for international financing. With bilateral arrangements, the burden of obtaining financing is left with the firm in the developed country. In cases where capital formation is not an explicit part of the bilateral contract (as in cases where oil is traded for unspecified commodities), the developing country has the advantage of being able to negotiate large purchases of foreign goods at one time, sometimes getting better terms by buying in volume and minimizing the need for extensive managerial staffs (often lacking in developing countries) to arrange and execute international transactions. Sometimes, also, such arrangements can disguise export subsidies by industrialized nations. For example, an oil-importing nation can agree to pay a premium for its oil purchases to persuade an oil exporter to spend its revenues in the former country.

Adding impetus to this trend toward bilateral trade arrangements is the likely importance of bilateral trade negotiations in the near future. I

would not be at all surprised if, stuck on some particularly vexing non-economic problems, two nations might find that some kind of reciprocal trade arrangement is just the lubricant necessary to unstick the negotiations.

By their nature, bilateral trade arrangements constitute discriminatory treatment by a nation of its potential trading partners, and as such they are contrary to the spirit of the framework that underlies the present trading system. At the same time, there is no reason to expect that the reasons for entering into such arrangements will weaken appreciably in the coming years.

There is no international agreement governing bilateral trade arrangements; nor, as far as I know, are there any plans for negotiations on this subject. Without some international agreement, however, it may be impossible for individual nations to resist the temptation to enter into such arrangements. If other nations are making bilateral deals, then a nation will only injure itself by refraining from making similar deals.

Bilateralism poses a particular problem for the United States. Because the federal government has little control over the private firms in the United States that carry out the bulk of U.S. international transactions, it cannot enter into bilateral arrangements as easily as governments that exercise effective control over important industries. In a sense such bilateral arrangements will not pose a hard policy choice for the United States in the near term because in the near term there is very little the United States can do.

The situation may be different in Canada, though. The recent agreement with Mexico on Canadian purchases of Mexican oil was made between the national oil companies of the two nations. I am not intimately familiar with the terms of that agreement but I do not think that the agreement contained any specific provisions for Mexico's spending its revenues from the sale of this oil in Canada. Future agreements might, however, include such provisions. And this, I think, poses some interesting questions for Canadian policy makers. Could Canada capture an important new share of the growing Mexican market through such arrangements? Or is this too dangerous a game to play? If this kind of deal became common, might Canadian exports lose out in the long run?

It is probably the proper role for a commentator at a conference of this sort to conclude his remarks by calling for more research. It is

particularly easy to do so here. We know very little about bilateral, 'barter-style' trade arrangements. How prevalent are they? Who is engaging in them? Are there really more of them than there used to be? How do they differ from arrangements made by multinational corporations? What are the policy implications of the widespread use of such arrangements? Is it even clear that such arrangements are undesirable? Which countries are in the best position to take advantage of bilateral trade arrangements? It seems to me that the area is ripe for both academic and public policy researchers. I, for one, would be very pleased to see some clear thinking on this subject.

Problems that trade barriers and foreign ownership raise for Canada as we enter the 1980s

Ronald J. Wonnacott and Paul Wonnacott

Analysts of Canadian industry have for many years noted a number of structural problems facing Canadian industry in its attempt to compete in both foreign and Canadian markets: for example, the inefficient, low-volume scale of many Canadian manufacturers; a low level of R & D expenditure; a high propensity to import manufactured goods¹; difficulties associated with the export of manufactures; and a transfer (or 'terms of trade') loss that occurs on the manufactured goods we do export. Two specific answers have been put forward to explain why we are thus handicapped. On one hand foreign ownership of a substantial portion of Canadian manufacturing is cited as the major cause of these problems; on the other hand it is contended that trade barriers are the primary cause.

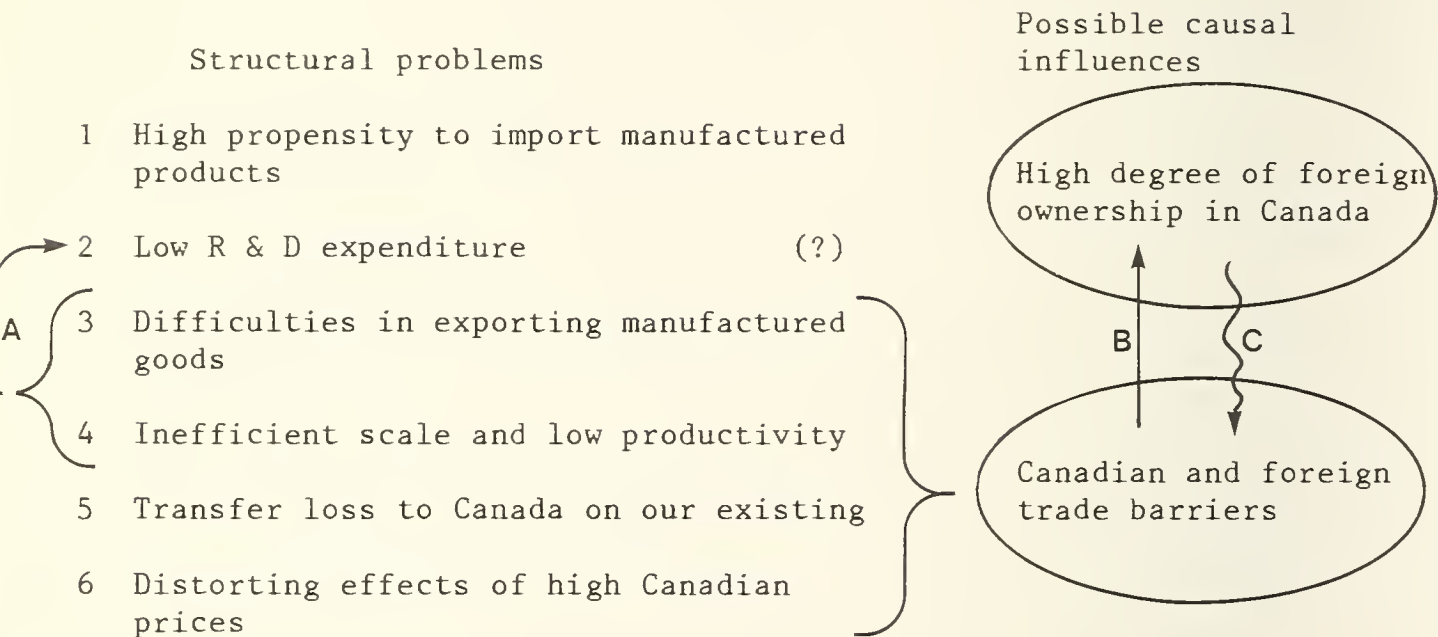
This paper argues that there is no single all-purpose culprit. Instead, foreign ownership contributes to some of our problems, while trade barriers contribute to others. In sorting out which problems are attributable to one, and which to the other, we shall be examining a number of statistical studies that throw light on this issue. Problems are displayed in the first column of Figure 1, with the two causal influences set out in the second column.

We wish to thank, without implication, Richard Caves, Don McFetridge, and Michael Spence for their comments.

1 Although these last two problems - low R & D expenditure and a high propensity to import - represent problems for Canadian industry, it cannot be assumed that they necessarily involve a welfare loss for Canada as a whole, a point we shall expand on later.

FIGURE 1

How some of the structural problems of the Canadian economy are associated with foreign and Canadian barriers to trade and with the high level of foreign ownership in Canada.



THE EFFECTS OF THE HIGH LEVEL OF FOREIGN OWNERSHIP

Does foreign ownership result in a higher level of manufactured imports?

The answer to this question is yes. The reason is that Canadian subsidiaries generally purchase from their parents specific components that are difficult or impossible to purchase from other suppliers in arm's-length transactions². Although this heavy purchase by subsidiaries from foreign parents does have an unfavourable balance of payments effect, it is not clear that it harms Canadian welfare. That depends heavily on the price the parent charges: if it is a price below the cost of like goods obtainable domestically, Canada may benefit by the acquisition of relatively inexpen-

2 Safarian (1966, 274-7) provides evidence of the greater import propensity of foreign-owned firms, an observation confirmed by Michael Spence (in Caves et al. 1977, 267) and, weakly, by Saunders (1978, 118). Wilkinson (1968, 149) provides further strong evidence of this relationship in secondary manufacturing. (But in primary manufacturing he found the relationship is reversed: foreign-owned firms import less.)

sive goods. On the other hand, if the price is well above such cost - as it may be if, for example, a U.S. parent is using in-house component pricing to transfer profits from Canada to the United States - then Canada is likely to suffer a loss.

Does foreign ownership result in a reduced level of Canadian R & D expenditure?

R & D expenditure accounts for only about half as large a proportion of GNP in Canada as it does in other industrialized countries; moreover, this Canadian proportion fell from 1.29 in 1967 to 0.92 in 1977.³ Is this because of foreign ownership? Or is it because of other influences, with low R & D in Canada being a problem shared equally by foreign-owned and domestically owned Canadian firms? This issue may be restated as follows: as the overall figures on low Canadian R & D suggest, and as confirmed by observations of the performance of individual foreign and domestically owned firms, all Canadian firms (regardless of ownership) do, on average, less R & D. An important reason (which we shall return to in more detail later) is that the small Canadian market allows only the sort of low-volume production in Canada that cannot support high-cost R & D overhead. But here we are concerned with another question: Do foreign subsidiaries spend even less on R & D than Canadian-owned firms (in which case part of the low R & D expenditure can be attributed to foreign ownership as such)?

Before examining the evidence, note that because of conflicting pressures there is no clear theoretical answer to this problem. On one hand subsidiaries may do less research than domestic firms because there are economies of scale and agglomeration pressures in research (scientists like to talk to each other); therefore parents may keep research 'at home.' (This will obviously mean that subsidiaries will do less research than parents, as Safarian, 1969, 187, confirmed; but the question here is whether this pressure is strong enough to induce subsidiaries to do less than their Canadian domestically owned counterparts.) On the other hand subsidiaries might tend to do more research than Canadian-owned firms, because as multinationals they can afford R & D that small domestic Cana-

3 See Senate (1978, 54). The figure of one-half has been confirmed in a detailed multi-industry study by Frankl (1979, iv).

dian firms cannot. (This possibility may have been strengthened recently by the allocation by some parents of world product mandates to subsidiaries.⁴)

What is the evidence? In the first attack on this question, Safarian (1966; 1968, chap. 9) could find no statistically significant evidence that foreign ownership in itself has reduced R & D in Canada. In a more recent study, Porter has examined this same question (see Caves et al., 1980). In his first preliminary passes he found a highly significant positive relationship between foreign ownership and R & D. But there are two possible cause-and-effect explanations: foreign ownership may encourage R & D, or heavy R & D industries may attract foreign ownership. (Firms in high R & D industries are more likely than firms in low R & D industries to engage in foreign investment, because it provides them with a way to reap a payoff from their intangible R & D assets. This latter explanation has indeed since received strong support from Saunders, 1978, 132.) In subsequent passes, therefore, Porter took account of the R & D intensity of each industry, using the U.S. interindustry R & D pattern as his benchmark. In these passes he uncovered fairly strong evidence that his earlier conclusion should be reversed: foreign ownership tends to reduce an industry's R & D below the level its R & D intensity would predict.

In summary, Porter's study suggests that if no interindustry adjustment is taken into account the heaviest R & D expenditures in Canada are observed in those industries with a heavy concentration of foreign ownership. But this is not because foreign ownership increases R & D expenditure. Instead it is because R & D-intensive industries tend to attract foreign investment. This is the dominant influence; once it is taken into account, there is then a weaker residual tendency for foreign ownership to discourage Canadian R & D. The apparent reason is that most foreign

4 Although world product mandates are a promising development for Canadian industry, a crucial question is: How mature is the mandated product? If it is old technology, as is often the case, it may be a very exciting mandate. But the possibility of a mandate puts a considerable challenge to Canadian scientists: they will be more likely to get a world mandate if the product has been developed in Canada than if it has been developed elsewhere.

Frankl (1979, iii) suggests that world product mandates may be one of the explanations for the relatively high R & D expenditure in the Canadian aircraft industry.

subsidiaries have full access to the parent's R & D, often at little cost.⁵ (There is a strong difference of opinion on the welfare effects of this displacement of Canadian R & D by inexpensive foreign R & D. According to recent highly publicized views, it is undesirable because it displaces R & D activity in Canada. On the other hand, many economists tend to view R & D like any other good: if it is worth a lot and you can get it inexpensively, it is in your interest to take it, unless there is evidence of more-than-compensating external costs from reduced Canadian R & D activity - the issue that now has become the focus of attention.)

McFetridge and Weatherby (1977, 29-36, esp. 34) uncovered mixed evidence that, on balance, tended to support Porter's conclusion. Like Porter, they took account of inter-industry variations in R & D and a number of other factors that influence R & D. Although foreign ownership was found to have a moderately strong positive effect on R & D in the machinery industry, in the other two industries studied (chemicals and electrical equipment) a much stronger negative influence was found. Frankl (1979, 40) also found that foreign-controlled firms do less R & D than Canadian-controlled firms in the same industry, with the important exception of the aircraft industry, in which foreign-controlled firms do more R & D.

A question mark is placed beside point 2 in Figure 1 not only because of the exceptions noted by McFetridge and Frankl, but also because two other studies do not support Porter's view. Taking account of inter-industry differences in R & D (but not other influences on R & D), Lithwick (1969, 80-3) found strong evidence that foreign ownership increases R & D. Globerman (1973) took account of inter-industry differences in R & D in only a relatively limited way (he used only a two-'industry' classification: high-technology and low-technology activities). Although in support of Porter's position he found weak evidence (63) that foreign investment discouraged R & D in technology-poor industries, he found strong evidence that it encouraged R & D in technology-rich industries. (The latter result seems most interesting because it does not support the oft-heard contention that foreign investment poses a special R & D problem in high-technology industries.)

5 Safarian (1966, 189, 191) found that 'fully 187 of the 215 (reporting subsidiary) firms ... indicated that the knowledge of the parent firm was fully available to them.' Eighty-two of these firms paid no charge whatsoever, and twenty-five made only a nominal payment.)

Although the Porter/McFetridge/Frankl conclusion - that foreign ownership has a negative effect on R & D expenditure in Canada - seems more likely to be correct, we still judge it quite reasonable to argue that it has not yet been proved; indeed, in some industries the effect seems to be the reverse. Therefore Figure 1 qualifies this conclusion with a question mark. The mists surrounding this issue have not yet been entirely dissipated; it is the least clearly confirmed of all the relationships in this table.

The first two problems in Figure 1 are thus to some degree attributable to foreign ownership. We now turn to problems 3 to 6, which are more convincingly explained by trade barriers.

THE EFFECTS OF FOREIGN AND CANADIAN TRADE BARRIERS

Do trade barriers deter Canadian manufactured exports?

The answer here is clear yes. Obviously, U.S. (and other foreign) trade barriers deter Canadian exporters from selling in foreign markets. But the Canadian tariff also indirectly deters our ability to export by allowing the survival of firms in Canada that are relatively inefficient by international standards and that accordingly have difficulty exporting.

Do trade barriers reduce Canadian manufacturing scale and efficiency?

An affirmative answer to this question follows from the point above. Because the Canadian tariff insulates Canadian manufacturers from foreign competition, it allows small-volume, hence inefficient, production to continue in Canada. This problem is further exacerbated by foreign trade barriers which deter Canadian manufacturers from exploiting export markets and hence also keep Canadian manufacturing volume low and relatively inefficient. In short, both Canadian and foreign trade barriers tend to limit Canadian manufacturers to the small domestic Canadian market. This in turn (arrow A in Figure 1) is an explanation of why R & D expenditures in Canada are low.⁶ The underlying reason was noted earlier: R &

6 This does not mean that only large firms innovate. Sometimes small firms may innovate with little or no R & D expenditure. For evidence that low R & D expenditure tends to be associated with small sales volume, see Scherer (1975, 325-42).

D is an expensive overhead that can be covered in many industries only by a large volume of sales. Thus the trade restrictions, both Canadian and foreign, that tend to corner Canadian producers in a small market are a major explanation of why R & D expenditures in Canada by both subsidiaries and domestic firms are so low.⁷ We have noted the weak, somewhat ambiguous, evidence that foreign-owned firms tend to do less R & D in Canada than their domestic counterparts. Thus low Canadian R & D seems to be the cumulative effect of both these influences, with tariff barriers depressing R & D by all firms in Canada (regardless of their ownership), while foreign ownership may further depress R & D expenditures by foreign subsidiaries. But again, we withhold strong criticism of the role of foreign ownership not only because its effect on R & D is statistically weak but also because in a country in which neither domestic nor subsidiary firms do much R & D we are at least acquiring a good deal of the results of research through the parent-subsidiary link. Moreover, we may be getting it at a low price (although as noted earlier, before passing judgment on this one should also take into account the external benefits of developing R & D in Canada.)

Before leaving the discussion of how trade barriers affect exports and efficiency, we have one final observation. There are, of course, some industries such as auto manufacturing where such trade barriers between the United States and Canada do not exist, and where exports and efficiency are not artificially depressed. Moreover, there are other cases where Canadian exports, though reduced by trade barriers, still take place. But even then there is a substantial loss to Canada, as we shall now see.

The transfer effects of the U.S. tariff

Because the United States is a relatively large country, with prices of North American manufactured tradables largely determined there,⁸ the U.S. tariff results in a transfer from Canada to the United States. This

7 For statistical support for the conclusion that low R & D is associated with low exports, see Caves et al. (1980, chap. 4).

8 The argument developed in this section does not depend on prices being completely determined in the U.S. market. As long as the U.S. rather than the Canadian market is the dominant influence (as for the manufactured North American tradables discussed here) the argument still holds, albeit in modified form.

occurs because Canadian exporters selling in, say, New York, must meet the U.S.-determined price there. If there is a U.S. tariff, the Canadian producer must (directly or indirectly) pay it. Thus a U.S. tariff results in a transfer to the U.S. Treasury receiving this tariff revenue from the Canadian exporters who pay it - and thus eventually from Canadian factors of production such as labour.

But why does the Canadian tariff not result in a compensating transfer in the other direction, from the United States to Canada? Once again, the explanation lies in the fact that the price of North American manufactured tradables tends to be determined in the large U.S. market. Thus the Canadian tariff does not significantly depress the price U.S. exporters receive; instead it tends primarily to increase the price Canadian consumers pay for these U.S.-produced goods. Thus the transfer that results from the Canadian tariff is from the Canadian consumer who pays a higher price to the Canadian Treasury, which collects the duty revenue. Since this is a domestic transfer,⁹ it cannot compensate Canada for its transfer loss to the United States that results from the U.S. tariff.

Thus a disproportionate share of the burden of Canadian and U.S. trade barriers has been borne by Canada. Since the tariff of a large country such as the United States can be viewed as an arbitrary tax on its small trading partner, two questions arise: Is a small country like Canada, with no control and little influence over the international price of manufactured tradables, reduced to some sort of pseudocolonial economic status, in which it must pay any tax (i.e. tariff) its large partner may assess? And what recourse does the small country have? Raising its own tariff is ineffective, since this does not transfer income back from the large country but only transfers it internally within the small country. Nor is opting out of trade with the large country a solution; it just compounds the damage, for the problem is not the trade between the two countries but the fact that trade is being taxed by the large country at the expense of the small. Rather than end trade, the solution to this particular problem lies in inducing the large country to eliminate its tariff and provide a guarantee that it will not be arbitrarily reimposed.

To sum up the last three points: Trade barriers mean that Canadian

9 This is not the only domestic transfer. By elevating domestic price, the Canadian tariff also results in a transfer from consumers to producers in Canada.

manufacturers tend to concentrate on the small Canadian market; thus they tend to operate at low-volume, inefficient levels. In many cases this inefficiency limits Canada's ability to export; in addition the U.S. tariff deters Canadian exports. But even when Canadians do succeed in exporting, the full fruits of this effort are not captured because a percentage is skimmed off by the U.S. Treasury when it collects duty on these exports.

This then completes our discussion of how trade barriers affect manufacturing in Canada. But to provide a reasonably complete survey of how such barriers affect the Canadian economy as a whole, it is important also to consider their effects on Canadian consumers.

Do trade barriers distort consumption in Canada?

The answer again is yes, because the Canadian tariff raises Canadian prices. An efficiency loss results because in response to higher prices Canadian consumption is reduced. To illustrate, suppose the Canadian price of an article is \$20 and the after-tariff price is \$24. Canadians who value this article at anywhere between \$20 and \$24 will now stop consuming it. Someone who values this article at, say, \$23 will now stop buying it because it now costs \$24. He will thus lose the \$3 net benefit he would have enjoyed in a tariff-free world (i.e. the \$3 he valued this article above its \$20 tariff-free price).¹⁰ In short, Canadians lose because they cannot consume imports at the tariff-free price.

This, then is the picture, except for two other important causal relationships. Arrow B in Figure 1 indicates how Canadian protection has provided an incentive for foreign firms to decide not to export to Canada but instead to jump the Canadian tariff by setting up production facilities in Canada. This effect of the Canadian tariff in encouraging foreign ownership has now become an accepted premise in discussions of tariffs and foreign investment. (See, for example, the Royal Commission on Cor-

10 If information is available on how much a tariff will reduce consumption, it's easy to estimate its total cost as follows: The Canadians who stop consuming this article will be those who value it in the \$20 to \$24 range, or on average at about \$22. Therefore the average loss on each unit of reduced consumption is about \$2, i.e. one-half the tariff. Thus the total loss to Canada because of distorted consumption is about one-half the tariff times the number of units of reduced consumption. There is also a loss of production efficiency (see point 4), but it is much harder to estimate.

porate Concentration, 1978, 3-4.) Empirical support for this has been provided by Eastman and Stykolt (1967). Caves (1971, 4 fn) cites further studies based on countries other than Canada that document this same relationship.¹¹

However, in explaining foreign investment in Canada, arrow B includes not only the positive effect of the Canadian tariff but also a possible negative effect of the U.S. tariff (i.e. the U.S. tariff may have discouraged U.S. firms from investing in Canada to service the U.S. market). The effect of both together may thus not be as strong as proponents of trade liberalization may have sometimes implied in their argument that reduced protection would bring a substantial long-run reduction in U.S. investment in Canada.¹² There is still a net expectation that trade liberalization would bring reduced foreign investment in Canada (as described by arrow B, in part because it would result in greater efficiency and thus allow a reduction in the Canadian capital/output ratio, which in

- 11 In recent statistical studies, it has become difficult to discern this relationship. Thus Caves (1974b, 286) does not uncover statistically significant evidence of an effect of the Canadian tariff on foreign investment in Canada (indeed his estimates frequently have the wrong sign). Saunders (1978, 132) finds evidence of this relationship only in his simple form of estimation, but not, somewhat mysteriously, in his more subtle statistical attack on the problem. Both authors attribute this statistical obscurity to the fact that such studies use very recent tariff figures, whereas foreign firms' decisions to invest in Canada have been influenced by tariff levels applying at various times during the past. (For a further reason see Caves, 1974b, 286).
- 12 But not necessarily a reduction in the short run, a point implied by the Economic Council of Canada (1975, 183). A number of authors have noted that there may be a substantial lag before lowered protection reduces foreign investment. Indeed Wonnacott (1975, 101) noted that in the short run Canadian tariff elimination might even increase foreign investment:

The rationalization of Canadian production implied by free trade may involve financial reorganization as well, with presently small Canadian producers in many cases being amalgamated into larger firms. This may in some cases be accomplished with Canadian, but in others with foreign, capital. In other words, in the short run there is a real prospect that in the absence of controls, the major reorganization of the economy implied by trade liberalization would provide an opportunity for multinational corporations with the largest financial resources to increase their ownership of Canadian industry. Although a few of these multinationals are Canadian, most are European, Japanese, and in particular, American. Moreover, increased U.S. purchase of Canadian industry is a problem that may arise if Canada liberalizes its trade with any other country or group of countries, because U.S.

turn would reduce Canada's net requirement for investment funds from all outside sources. But what is not so clear is how, above and beyond this, the pull and push of the two tariffs ¹³ on foreign investment would trade off.

Defining arrow B is further complicated by the fact that a relationship goes in the other direction, as described by arrow C. The reason, as originally suggested by Caves and statistically confirmed by Saunders (1978, 68), is that, other things equal, the Canadian government seems on average to provide lower tariff protection to foreign firms than to domestically owned enterprises. (Arrow C is wavy to indicate that it carries a negative sign, i.e. foreign ownership tends to reduce rather than increase Canadian tariffs.)

This then, is the overall picture. We have limited ourselves to 'problems only.' Thus we have not examined, for example, the benefits foreign ownership provides because of, say, the taxes foreign subsidiaries pay to the Canadian government.¹⁴ Of course, many other factors influence both the structural problems in the left-hand column of Figure 1 and the causal influence in the right-hand column. (For example, if we were to seek a full explanation of why foreign firms have invested in Canada, we would recognize that the Canadian tariff has been only one of several incentives;

capital may finance increased Canadian trade with any country. The degree to which foreign ownership should be controlled (or domestic ownership subsidized) is a highly controversial issue that is not dealt with here; however, these observations support the position that if such controversial controls are to be exercised, then the best time to do so would be during the rationalization period immediately following any substantial tariff reform.

Thus the reduction or elimination of tariffs may reduce foreign ownership only in the longer run, by making Canada a more attractive setting for the headquarters of home-grown firms in new industries, and possibly by substantially reducing the incentive for U.S. firms to set up new plants in Canada.

13 As implied earlier, the most important results of U.S. trade liberalization may well come not from a reduction in the U.S. tariff (which by the mid-eighties will be quite low in any case) but rather from a reduction in U.S. non-tariff barriers (NTB). Indeed, when we use the term 'tariff' in this paper, we are referring to NTBs in recognition of their increasing relative importance, both because they are rising and because tariffs are falling.

14 For more detail on the benefits and costs of foreign investment, see MacDougall (1960).

another has been the development of patents and technology by firms in foreign countries that then seek a market like Canada in which to invest and thereby 'further cash in on' this intangible capital.) Our objective here has been the limited one of sorting out which of our structural problems can be attributed to foreign ownership and which to trade barriers. Even within this limited context, however, some may find this discussion incomplete. Specifically, charges have frequently been heard that foreign ownership has been a cause not only of the difficulties cited here (namely points 1 and 2 in Figure 1), but also of our export difficulties (3), and our low scale and productivity levels in manufacturing (4).¹⁵ Is there evidence to sustain such charges?

OTHER CHARGES AGAINST FOREIGN INVESTMENT

Does foreign ownership weaken Canada's export performance?

Before examining the evidence, what might we expect the answer to this question to be? Specifically, does foreign ownership result, as sometimes alleged, in fewer exports because subsidiaries are discouraged or prevented from entering the export markets already serviced by the parents? Specific concrete instances of this have been cited. Moreover, there have also been a few extremely well-publicized instances of Canadian subsidiaries that have been prohibited from exporting because it would put the U.S. parent in violation of the American Trading with the Enemy Act. This suggests that foreign ownership reduces our export performance. Yet in examining the aggregate figures, Wilkinson (1968, 146) could find no significant effect of foreign ownership on exports, while Safarian (1966, 136-7) and Saunders (1978, 118) found weak evidence that foreign ownership has in total improved rather than damaged Canadian export perform-

15 For example in The Weakest Link, a publication sponsored, but not necessarily endorsed, by the Science Council of Canada, Britton and Gilmour (1978, 92-6) argue that foreign ownership is the cause of problems 1 through 4. (They do not address problems 5 and 6.) At the same time their view on the causal influence of trade restrictions is ambiguous and contradictory. On one hand they seem to suggest that protection is the second most important cause of Canada's structural problems (101). On the other they argue that tariffs are unimportant; their protection effect is 'a mirage' (50-1).

ance.¹⁶ This suggests that instances in which subsidiary exports have been reduced by parental pressure have been offset, and perhaps more than offset, by the greater export opportunities subsidiaries have been able to realize by drawing on the marketing capabilities or accumulated advertising and goodwill of the parent multinational. (One might speculate that subsidiaries may be able to exploit this advantage even more in the future, insofar as they are able to develop world product mandates.) In short, available evidence does not support the contention that, on balance, foreign ownership discourages Canada's overall export performance. If anything, it weakly suggests that it may improve it.

Does foreign ownership contribute to Canada's inefficient scale and low productivity?

Again, before turning to the evidence, what is our prior expectation on this question? On the one hand it has been argued that access to the parent's technology should make subsidiaries in Canada more efficient than Canadian-owned firms; further, it has been argued that the existence of foreign firms increases competitive pressures that tend to increase Canadian firms' efficiency both in the same industry and in other industries (see Caves 1974a; Globerman 1979). On the other hand several possible reasons have been suggested for expecting that subsidiaries may be less productive. Foreign ownership leads to greater product differentiation (which by carving up the relatively small Canadian market leads in turn to scale inefficiency and low productivity). This has been attributed to a follow-the-leader attitude by American parents in setting up Canadian subsidiaries (Royal Commission on Corporate Concentration 1978, 194). Moreover, once established, oligopolistic U.S. subsidiaries may not engage in the sort of competition that might result in fewer, less costly products because for two reasons American parents do not want to disturb the market. First, they may be willing to sacrifice an expected profit in order to avoid the risk of being forced to withdraw and being no longer able to 'fly

16 McFetridge and Weatherby (1977) provide very strong evidence that foreign ownership improves export performance overall (see their coefficient b_{32} , p. 83) and specifically in the resource sector (b_{31} , p.93). However, in the manufacturing sector alone they found no such strong evidence. (In this instance they did not report whether or not there was weak evidence.)

the flag' in Canada (Fullerton and Hampson 1957, 71); moreover, each U.S. subsidiary may be reluctant to initiate price competition with the others, because the deep pocket of each parent means that it is unlikely that competitors actually can be driven out (English 1964, 42). A final reason suggested for the fragmenting of the Canadian market into many small firms is that the past spillover of U.S. advertising into Canada may have fragmented Canadian demand. In other words, it may have created strong Canadian preferences for specific brand name products which in turn may provide each U.S. subsidiary with insulation in its own corner of the Canadian market (Fullerton and Hampson 1957, 74; Caves 1975, 3).¹⁷

Studies of how these conflicting pressures trade off have tended to turn up contradictory evidence. Fowler (1976) uncovered a strong negative correlation between foreign ownership and productivity. On the other hand Safarian (1966, 91) found that foreign firms are at least as productive as domestic firms. In a later study, Daly (1979b, 48) found that U.S.-controlled establishments were generally more productive than Canadian-controlled ones. And in a sample of two thousand manufacturing establishments in Quebec, Raynauld (1972, 97-9) found strong evidence that foreign subsidiaries were more productive than domestically owned firms. (His best estimate of this difference was 33 per cent¹⁸). Since then there have been three broader statistical enquiries that have not only included more explanatory influences but also used more costly and ambitious statistical techniques. Caves et al. (1980, Chap. 10) provide strong evidence that in some activities foreign ownership is associated with reduced scale (and productivity), while in others it tends to be associated with increased scale. Saunders (1978, 151) uncovered a statistically significant negative effect of foreign ownership on productivity; on the

17 A further more complicated reason for expecting that foreign ownership may have led to reduced efficiency is this: post-war tariff reductions have increased efficiency (at least in domestically owned enterprise) as increased import competition has forced less efficient Canadian firms out of business. But this may not have occurred to the same degree in industries with a heavy concentration of foreign ownership; U.S. parents that wish to prevent the loss of sunk capital in Canada may have been able to moderate import competition, since they are in many cases the source of imports (Royal Commission on Corporate Concentration 1978, 54).

18 This estimate, he notes, is similar to the 'one-third' estimates of the productivity advantage of U.S. subsidiaries discovered in Australia by Brash (1966), and in the U.K. by Dunning (1958).

other hand he argued later (174) that there was some weak statistical support for the view that access to parents' technology contributes to productivity. Moreover, Globerman (1979) found fairly strong statistical support for a hypothesis Caves had postulated (1974a) but had been unable to confirm convincingly in any of his test: that there seem to be spillover benefits of foreign ownership in terms of increasing the productivity of competing Canadian firms.¹⁹

Thus, we conclude that the contention that foreign ownership reduces Canadian productivity is not proved; indeed, if anything, the balance of the evidence seems to point in the other direction. This tends to support the conclusion by the Royal Commission on Corporate Concentration (1978) that the inferiority of both foreign-controlled and domestically controlled firms in Canada compared to their American counterparts indicates that the problem of industry in Canada is not its ownership, but rather the small-market environment in which it operates. If anything, foreign ownership may make this problem somewhat less serious.

A note on statistical evidence

The empirical studies cited above are not those of the strong critics of foreign investment, such as Britton and Gilmour (1978), who attribute problems 3 and 4 (as well as 1 and 2) to foreign ownership. The statistical support for the latter position is seriously flawed. One of the ways Britton and Gilmour support their criticisms of foreign ownership is to draw on studies²⁰ that have examined the experience of individual foreign-owned firms. But they do not make the essential comparison of foreign firms with similarly situated domestic firms. Instead, they observe a foreign firm and observe that it has a problem. They then imply that foreign ownership is the cause of the problem, without testing the alternative hypothesis that ownership has nothing to do with it at all, that both foreign-owned and domestic firms face the same problem because they operate in the small Canadian market.

There are other problems involved in basing an argument on the

19 At one point Globerman refers to his support as 'ambivalent' but later suggests it is substantial. In our view the latter judgment is justified by his statistical results.

20 Such as Cordell (1971) and Bourgeault (1972); for a more detailed discussion of these studies, see Safarian (1979).

experience of a few individual firms. While these firms may provide useful and colourful illustrations, they cannot by their very nature support economy-wide generalizations. Moreover, a debate based on a few illustrative firms tends to reduce to swapping anecdotes. ('Your firm can do such-and-such, but my firm can do so-and-so'). Finally, because such examples constitute a relatively small sample, the question of the reliability of their message arises even if they have been scrupulously selected at random and not because they have special characteristics that illustrate a point.

A second problem arises in the discussion of R & D. We have already seen that foreign ownership quite possibly does have some deterrent effect on Canadian R & D (problem 2), although this is the least strongly confirmed relationship in Figure 1. However, the strong critics of foreign investment tend to allow their criticism of the effect of foreign ownership on R & D to grow out of proportion for a reason that can best be understood with the following example. California has one of the highest R & D levels in the United States and is the last state that could reasonably claim to suffer from R & D truncation. (Palo Alto is one of the two or three major U.S. centres for R & D.) Yet by citing the experience of a few selected firms, it is easy to show that even California suffers from truncated R & D. Take a specific auto company that does some production in California but does little R & D there, since its auto R & D is centred in Michigan. In short, since R & D involves agglomeration, it is easy to find numerous specific examples of truncation even when, as in California, a general problem does not exist. For every truncated establishment one may cite in Canada, a similar establishment in California could be found, although not necessarily in the same industry.

Indeed, there is a fundamental difficulty with a 'technological sovereignty' goal of the type defined by Voyer (1978, 228) as 'the technological capability to support national sovereignty,' that is, the mastery and control of 'those technologies essential to Canadian development.' The problem is that most R & D is an expensive overhead. No economy the size of Canada (or Italy, or France, or California) has the capability of producing the R & D needed for the development of all its industries; the borrowing of some foreign technologies is both desirable and inevitable. While Canada is capable of more R & D than is now done, and indeed developments which would induce more R & D (particularly those involving

market enlargement) would be welcomed, Canada simply does not have the ability to do R & D across the board. Efficient R & D is often specialized R & D. To repeat one of the simplest messages of economics: resources are scarce; choices must be made.

To sum up: single-firm illustration of R & D truncation prove nothing. Inadequate R & D can be established only by looking at total R & D expenditure by all firms in all industries, and these totals tell us we have a problem in Canada. But these totals do not tell us why. To answer that question there is no short cut. One must systematically compare the performance of domestic and foreign firms, as Caves, Porter, McFetridge, Safarian, Saunders, and others have done. And, as we have seen, the most recent and sophisticated of these studies do provide some support for the contention that foreign ownership influences R & D.²¹ But these studies recognize many other influences on R & D; and they do not support another charge against foreign ownership that we consider now.

21 One of the R & D success stories strong critics of foreign ownership cite is Northern Telecom. (See especially Cordell 1971 and Britton and Gilmour 1978, 99-101.) It is difficult to sort out how much of the success of this company has been due to (1) its reduced dependence on foreign technology following the U.S. anti-trust decision of 1958, (2) its special sales relationship with Bell, and (3) its duty-free access to the U.S. market in many products, along with its own tariff protection in the Canadian market. (The third is particularly interesting insofar as it may illustrate how a firm can support an R & D program if it can gain access to foreign markets.) But with these three explanations at hand, the strong critics of foreign ownership emphasize only the first.

Incidentally, the combination of free access to foreign markets along with protection at home is a good prescription for the development of an industry. The Japanese have been particularly successful in using this strategy (although of course their access to foreign markets has only been 'relatively free'). However, in light of the give-and-take nature of tariff negotiations it is becoming very difficult to arrange this combination. Moreover, while it may be in the interests of the industry, it is not necessarily in the national interest. To establish a national gain would require establishing dynamic benefits from retention of own tariff sufficient to offset static net losses due to its effect on consumers and producers (after allowing for terms-of-trade effects). Although one might argue that this tradeoff might be justified in the short run until the industry is well-established, it is more difficult, though not necessarily impossible, to justify in the long run.

(Although Northern Telecom enjoyed duty-free access to the United States market in some products, this was not 'free access' because

Employment effects of foreign ownership

Perhaps the strangest argument of all mounted by two of the strongest critics of foreign investment (Britton and Gilmour 1978, 124) is the claim that it had resulted in a net overall loss of employment of 120 400 jobs in Canada by 1970. In a country in which a long list of provincial premiers would testify to the job-creating effects of foreign investment (as Britton and Gilmour themselves later concede, 184) how do these authors arrive at this remarkable conclusion? The answer is that they first take an estimate of the U.S. domestic employment gain from U.S. investment in foreign countries (a questionable estimate in any case because it was designed by the U.S. multinationals to counter as strongly as possible the U.S. trade union claim that, through foreign investment, they were exporting jobs). Britton and Gilmour then assume that this employment gain to the United States results in an equivalent employment loss to Canada (and other foreign countries). In short, they argue that, in the absence of evidence to the contrary, it may be assumed that foreign investment is a zero-sum game.²² The mischief the zero-sum assumption would do the analysis of almost any economic transaction is clear. Indeed, in the absence of evidence to the contrary, a more natural assumption is that economic transactions are not zero-sum; if they were they would be unlikely to take place.²³

Moreover, one may seriously question why those who are promoting R & D would want to place such heavy emphasis on its effects on employment. After all, many of the major inventions through history (from the cotton gin to the combine) have in the first instance destroyed jobs. Emphasis on first-round job creation would lead to a focus on the sort of

preference was granted to American products in U.S. government purchases, an issue of considerable importance in the telecommunications industry. Northern Telecom has accordingly set up assembly plants in the United States, so that its output would fall under the Buy American umbrella.)

22 'As there is no evidence that this is not a gaming problem with a zero-sum, the net gains made by the U.S. economy from foreign investment may be treated as net losses to host economies; that is, benefits to the U.S. are detrimental to Canada' (123).

23 Zero-sum employment effects parallel the more familiar - but similarly erroneous - ultra-nationalistic view that foreign investment earnings are also zero-sum.

R & D that would generate employment-intensive processes. But much of the promising R & D lies elsewhere. Surely, one of the major responsibilities of those promoting R & D should be to explain to the public the medium-term and long-term adjustments that tend to solve the problem of temporarily displaced labour. (In many cases, of course, these are the same adjustments that tend to solve the problem of temporary labour displacement when trade is liberalized.)

A related effect of foreign investment discussed by Britton and Gilmour is the falling rate of manufacturing employment relative to total employment. But there seems little ground for attributing this effect to foreign investment: there has been a general decline in this ratio throughout the high-income industrial world. Indeed, as Daly (1979a, 309) has pointed out, manufacturing employment in Canada has fared relatively better than in some other similarly industrialized countries. Is this good? Or is it just a reflection of less rapid productivity change? The reason for the falling relative level of employment in manufacturing comes from somewhere else: from the tendency for the consumption of services to rise compared to goods as consumers become more affluent, and the rise in the relative size of government.

OVERALL OBSERVATIONS ON THE PROBLEMS POSED BY FOREIGN OWNERSHIP AND TRADE BARRIERS

If we consider the whole set of Canada's structural problems 1 through 6 in Figure 1, can we decide which does more damage to Canada: trade barriers or foreign ownership? There are three reasons for citing trade barriers.

First, the problems associated with foreign ownership - the higher imports of manufactured goods (problem 1) and technology (problem 2) - may or may not involve a welfare loss for Canada. This depends on the price at which these imports are acquired by Canada and the externalities involved, especially those associated with conducting R & D in Canada rather than importing technology. On the other hand it is much more likely - indeed, in some cases virtually certain - that the problems associated with trade barriers (problems 3-6) do involve a welfare loss to Canada.

The second reason that trade barriers may be viewed as the more

serious problem is that they not only contribute directly to problems 3-6 and indirectly to problem 2 via arrow A but in addition, by encouraging foreign investment (arrow B), they contribute indirectly to the problems attributable to foreign ownership.²⁴

The third reason for viewing trade barriers as the more serious problem is one point in Figure 1 that has so far gone unrecognized that makes foreign ownership less damaging. Whereas foreign ownership does contribute to problems 1 and 2, it tends to reduce problems 3 to 6. This is because foreign ownership tends to reduce trade barriers (arrow C) and thus tends indirectly to reduce the problems (3 to 6) attributable to trade barriers. In short, both trade barriers and foreign ownership have created their own set of problems; but while trade barriers have indirectly made reduced 'trade barrier' problems. The reason is that B and C carry a different sign.

EVALUATION OF RECENT 'INDUSTRIAL STRATEGY' PROPOSALS

The accumulated research reported on in this paper sheds some light on a

- 24 Is this indictment of trade barriers too strong? Does not the Canadian tariff, through its classical effect of restricting imports, have a 'favourable' impact on problem 1? The answer is yes, in terms of this restriction on imports. But it does not necessarily follow that the Canadian tariff has a favourable overall effect on Canadian welfare. Indeed, accepted tariff theory would lead us to expect, other things equal, that its restrictive effect on imports is likely to have an unfavourable welfare effect, since the losses to consumers are likely to exceed the gains to producers.

The other possible reservation about our strong indictment of trade barriers is this: We have already seen how trade barriers in Canada and abroad reduce Canadian manufacturing volume and efficiency and thereby tend to deter Canadian R & D expenditure (arrow A). But there is now some moderate to weak evidence (Porter, in Caves et al. 1980, Chap. 7) that the Canadian tariff encourages (rather than discourages) Canadian R & D by allowing Canadian firms the economic 'elbow room' to undertake adaptive research or by allowing more favourably placed firms to replace adaptive research with more original research aimed at the Canadian market. But this is an effect only of the Canadian, not the U.S., tariff. (In explaining Canadian R & D, Porter did not include the U.S. tariff.) The question of how both tariffs affect Canadian R & D reduces to the issue of how the possibly encouraging effect of the Canadian tariff balances off against the deterrent effects of trade barriers - especially of foreign barriers - in restricting Canadian scale and efficiency and hence Canadian R & D opportunities.

number of policy proposals that have recently been put forward by those seeking to define an 'industrial strategy' that will solve the problems of Canadian manufacturing, in particular problems 1 to 4 in Figure 1. Many of these proposals do not include any further initiative (beyond the Tokyo Round) in reducing trade barriers; indeed, industrial strategy proposals sometimes include a recommendation that Canadian trade barriers be increased. The counterproductive implications of this recommendation are shown in Figure 1. We now consider other industrial strategy recommendations that have been made: pick 'winners' and subsidize them, particularly their R & D; reduce imports of foreign technology; at all levels of government set up preferential purchasing policies favouring Canadian-made goods; and encourage (or require) the merger and rationalization of small Canadian firms into larger enterprises.

Pick winners

It is not clear that in practice this is very easy to do. The government may be no more able than a stockbroker to translate this desirable general principle into specific, concrete action. (Indeed it is probably less able to do so because of the multitude of economic and political pressures to which the government is subject in developing industrial policy. Picking winners implies letting losers fend for themselves; and a Canadian government will find it exceedingly difficult to do this in, say, the Maritimes.) On the question of which industries will be winners there is generally silence, or generalities too broad to be useful.²⁵ The most specific list of suggestions appeared in a series of articles by Neil Paget in the Globe and Mail beginning on 19 May 1979: telecommunications, energy development, engineering and construction, transportation equipment, petro-chemicals, and resource-related products. Two of these should be obvious winners - resource-related products and energy development - because of our resource endowments. Transportation equipment is a potential winner, partly be-

25 For broad generalizations see, for example, Britton and Gilmour (1978, 165-89). The argument that the government is better at picking winners than the market is not an easy one to sustain. What U.S. government official five years ago would have picked the American textile industry as a winner? Yet parts of this industry have been so successful that their exports to Europe are now high enough to be putting U.S. trading relations under strain.

cause the 1965 auto pact opened up the U.S. market. In two other cases, petrochemicals and telecommunications, access to the U.S. market is also a key. In petrochemicals Canada already has some world-scale plants; they do not need a subsidy as much as a large enough market in which to sell their product. Telecommunications (especially Northern Telecom) is a winner that has already been picked by the market, in part because of its relatively free access to the United States in a number of products. In other words, there are the obvious energy-related examples of winners, as well as firms that above all require access to a large sales base. Moreover, the potential winners tend, like Northern Telecom, to be firms that the market has picked, not the government.²⁶

Picking winners is often viewed as a key to Japanese success. But to say that Japan has been successful may not be too helpful. It has a much larger domestic market than Canada. Moreover, Japanese export success was historically based on an undervalued yen that tended to make whatever the Japanese picked a winner. Finally, the Japanese level of investment has usually run roughly double the Canadian rate. In short, for many reasons Japan's ability to pick winners does not provide a very good precedent for Canada.

In evaluating publicized cases in which governments have picked winners, it is important to remember that governments have at times picked spectacular losers, such as the Concorde.

Subsidize R & D

R & D expenditure is like fertilizer: it will not work unless the soil is right. Because heavy R & D firms normally require a large sales volume over which to cover their R & D overheads, that means a large market. Providing R & D subsidies to firms that do not have a market is like throwing fertilizer on rocks. There is no point in designing a better mousetrap or Concorde aircraft if you cannot sell it. Unfortunately, even if there is access to a large market, R & D subsidization may still not pay off. With the opening of the large European market, French subsidies to high-technology industries have met with success in certain instances but

26 Northern Telecom has had subsidies, but basically of the sort available to any similar Canadian company.

with failure in others (Palda 1979, 41-3).

In examining the Canadian case (where market access is limited) Porter's findings on the effectiveness of R & D subsidies (in Caves et al. 1980, 25) are not encouraging. Although he is not sure about the causal connection, his best-controlled study shows that subsidy by the Canadian government seems to have been associated with lower overall R & D expenditures; in other words when the government provides a dollar of subsidized financing of R & D, more than a dollar of private financing of R & D disappears. On the other hand Howe and McPetridge (1976, 66-7) conclude that there has been no such crowding out and suggest that government subsidies may have even stimulated private R & D expenditures somewhat. In our view, if a way can be found to subsidize R & D more efficiently than in the past, the externalities in R & D may justify some subsidization, especially in view of the heavy direct and indirect research subsidies foreign competitors receive.²⁷ But to reduce the risk that subsidization will be counterproductive (i.e. crowd out privately financed R & D) the best way is not through grants but rather through tax breaks that will leave the potential marketability of the product as an important input into the R & D decision. 'R & D subsidy' is no magic catchword to success. Let the taxpayer beware.

Reduce imports of foreign technology

One of the most disturbing recent recommendations is that a strengthened Foreign Investment Review Agency should screen the import of foreign technology into Canada, allowing some in while keeping some out. This proposal raises two major questions. First, do we really encourage the development of technology in Canada by keeping ideas out? Would we end up reinventing the computer? Second, how is a government official administering such restrictions going to decide which technology should be allowed in and which should be kept out? Those who recommend such screening provide no clear answers to this question. Moreover, advocates of this measure recommend that new technology should be imported, not by foreign subsidiaries, but rather by an independent Canadian firm in an

27 For example, a major advantage of U.S. civil aircraft producers is that the large U.S. government purchase of military aircraft allows the companies to cover their basic aeronautical R & D.

arm's-length licensing agreement (Britton and Gilmour 1978, 191). While this would tend to reduce the role of foreign ownership in the Canadian economy, it would involve a disadvantage in so far as it resulted in a slower transmission of new technology and perhaps a higher price. (Indeed, the relative speed of the parent-subsidiary transfer of technology is a major potential benefits of foreign investment.) The reason arm's-length transfers via license agreements tend to be slower is the high degree of uncertainty about how much the payoff of any new technology will be. Thus the bargaining position of two parties is unlikely to overlap. The seller tends to be optimistic about how successful the new technology will be and must ask a price high enough to cover the possibility that it does indeed have a very high payoff; on the other hand the buyer must discount his price offer to cover the possibility that the new technology will, for some unforeseen reason, not work. (In other words, the bargaining position of the buyer and seller are unlikely to overlap because in taking into account of uncertainty they adjust their prices in opposite directions.) Of course this problem of uncertainty disappears when the new technique is fully proved out, at which time licensing agreements become feasible. But then it is no longer new technology. (This point should not be overstated. It would indeed be a strong one if licences were sold for lump sums. But ordinarily they are not; instead they are sold for a percentage of the value of the product. And in such cases the problem of non-overlapping of the buyer's and seller's positions becomes less important.)

This does not mean that a parent-subsidiary transfer is always the best way of acquiring foreign technology. There simply does not seem to be any single all-purpose solution.

The three policies so far discussed are designed to stimulate domestic R & D. The final two are answers to the question cited earlier: How can high-technology Canadian firms be provided with a larger market?

Purchasing preferences for Canadian-made products, especially high-technology products, by all three levels of Canadian government

Government purchasing policy is an inherently difficult area in which to make simple policy prescriptions. Even if other objectives (such as creating a large Canadian market) are not introduced, it is still difficult to clearly set out an optimal purchasing policy. One can argue for instance,

that government purchases should be constrained to the lowest bid to prevent the exercise of payoff patronage; yet if this constraint is enforced how can government purchasers take account, as private purchasers do, of the extremely important issue of the availability of future supply?

Government procurement policy is further complicated when the additional objective of creating a domestic market for Canadian products is introduced. There are several arguments against introducing such an objective. First it is difficult to make a case for strengthening this Canadian non-tariff barrier at any time; but it is especially difficult now. As a result of the Tokyo Round there is now some prospect of reducing such non-tariff barriers, making it easier for foreign firms to bid for Canadian orders and for Canadian firms to bid for foreign orders. This is an important opportunity for Canada because the foreign orders that may be gained are usually many times greater than the Canadian orders that may be lost. This negotiated reduction in non-tariff barriers may well be eroded in any case; but it is in Canada's interest to work to strengthen, not weaken, this agreement.

Second, escalated protection raises costs to the taxpayer. To the original R & D subsidy paid to the Canadian producer there is now added a further subsidy in the form of the higher price each government must pay to purchase products on a preferential basis.

Third, preferential government purchases may paradoxically shrink, rather than expand, the domestic market available to a Canadian firm. The problem is that any of the provincial governments under pressure to give preference to Canadian suppliers may extend this logic one step further to give even greater preference to its own provincial suppliers. Thus the preferential carving-up of the Canadian market that is already taking place may be accelerated.²⁸ It is easy to see how this introduces inefficiency. As each province purchases its own product, an efficient national producer loses out to inefficient local ones in every province but its own. An internationally competitive industry is not developed after all, and costs to the taxpayer rise once again. There is now a triple subsidy: the original R & D subsidy to the Canadian firm, the subsidy the firm receives when its output is sold at a higher price because it is given

28 For example, electrical wire and cable is produced inefficiently in most provinces of Canada because of provincial purchasing preferences (Senate 1978, 60).

Canadian preference, and the subsidy the firm receives because its output is sold at a higher price yet again because it is given provincial or municipal preference. And in the end these subsidies may benefit no one. Instead they may go into covering the excess costs of production of the small, scale-inefficient firms operating in a balkanized Canadian market.

Encourage mergers of existing Canadian firms

Many writers have recommended that small-scale Canadian firms be allowed more freedom to merge. Some have gone even further in recommending that the government take an active role in promoting mergers (Britton and Gilmour 1978, 170-1). The resulting firms would have a larger share of the existing Canadian market and could better capture economies of scale. It has been our view that allowing (as opposed to forcing) such mergers may be desirable, provided they are allowed in a period when trade is being liberalized. Thus import competition would be reducing Canadian price, as merger-induced efficiency would be reducing costs. In this way increased efficiency from economies of scale would be realized throughout the economy (rather than retained as higher profits by the industries concerned); this would also protect the consumer from exploitation by an increasingly monopolized industry. In short, Canadian industry needs both larger-scale production runs and increased competition. And in many industries in our small economy the only way to get both is through foreign competition.²⁹

CONCLUSIONS

This paper has tried to define some of the most important effects of trade barriers and foreign investment. No claim is made that this picture is complete. Many important questions have not yet been addressed, let alone answered. Instead we have concentrated on bringing together the

29 Gorecki's statistical study leads to his conclusion (1976, 75) that in a number of instances economies of scale cannot be achieved in the domestic market without raising monopoly problems. For further detail on the problems involved in trying to achieve economies of scale by concentrating on the domestic market alone, see Daly et al. (1968, 45-6), Hindle (1978), and Wonnacott (1975, Chap. 13).

already known pieces in this puzzle, the research that has already been completed on the causal relationships shown in Figure 1. Our conclusion is that there is no all-purpose explanation of Canada's manufacturing handicaps; neither trade barriers nor foreign ownership can explain all the structural problems discussed here. However, on balance, trade barriers seem to be the more serious issue because they directly cause a more damaging set of problems and they indirectly contribute to the problems associated with foreign ownership.

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A. E. Safarian

This paper attempts to do two things. First, it assesses the evidence on the extent to which our industrial problems are due to foreign ownership of industry, on the one hand, or to trade barriers on the other. Secondly, it considers more briefly various proposals to stimulate research and development and to provide high-technology firms with a larger market. In the process, the paper throws a great deal of doubt on what has become in many quarters the conventional wisdom about the sources of Canada's industrial problems and raises important questions about the associated policy recommendations. Since I find myself in agreement with much of what is said in the paper, a major part of my comments will be on several related questions that the authors recognize but do not develop for want of evidence. Briefly, I shall underline the point that we need a broader framework if we are to evaluate both the sources of our industrial problems and the possible policy responses.

What the Wonnacotts have done is to review the available evidence on how foreign ownership, on the one hand, and Canadian and foreign trade barriers, on the other, are related to six structural problems in Canadian industry. I use the term evidence in its scientific sense; the authors are properly critical of the use of selected examples or of the failure to use appropriate statistical techniques, both of which characterize the work published for such bodies as the Science Council of Canada. The Wonnacotts find that foreign ownership does contribute to higher imports of manufactures and may contribute (here the evidence is not as strong) to Canada's relatively small amount of research and development. The evidence is more convincing that trade barriers contribute to the other problems - to difficulties in manufactured exports, inefficient scale and low productivity, to the distorting effects of high Canadian prices, and to transfer loss on existing trade in manufacturers. Moreover, trade barriers contribute to the problems associated with foreign ownership because they encourage such ownership, whereas foreign ownership tends to reduce trade barriers and thus some of the problems associated with trade barriers. What the Wonnacotts have done is to show that foreign ownership cannot be the main cause of our industrial problems and is probably much less important than trade barriers as a cause of such problems.

This is an important conclusion, the more so because it contradicts

the views of many influential Canadians. It is important to remember that trade barriers encompass non-tariff barriers, and that the question of market size applies to the Canadian market and not just to markets abroad: the paper would have been stronger in my view if these points had been examined more fully.¹ More fundamentally, the Wonnacotts recognize there are other determinants of industrial performance than the two they have examined and also that we are still uncertain how much each of the two they examine determines the outcome. Indeed, they have drawn some interesting linkages between the two determinants, as already noted earlier.

Having put the foreign ownership issue in some perspective, I believe we now need to concentrate on a broader and more precise framework for the causes of our industrial problems. For example, if one grants that the high degree of foreign ownership contributes to the strong propensity to import manufactures, and less certainly, to low R and D expenditures, the next question is how large or small the effect may be. To answer that, and to explore further the welfare effects of alternative policies, one needs to specify more fully what factors determine both high imports and low R and D. How far did the macro policies of the early and mid-seventies contribute to the widening of the deficit in trade in manufactures? Much of that widening took place at a time when wage rates rose relatively rapidly in Canada while the foreign exchange value of the Canadian dollar remained high. How much do the presence of a large primary resource sector and the fact that in some of these industries R and D is subsumed in the production process contribute to the apparent relative weakness of over-all R and D? As the authors note, some progress has been made in specifying other influences in some cases, such as in R and D expenditures. We are not going to go much further in our analyses until we have fuller models of the determinants of Canada's industrial problems and of the weights attached to them.

Let me pursue this same point by considering the policy sections of the paper. Here the authors make a number of criticisms of the current forms of industrial strategy, namely, those designed to stimulate domestic

1 See notes 13 and 29, among other places. The effects of non-tariff barriers, for example, are often not the same as the effects of tariffs, owing to the time frame and the way the costs are distributed.

R and D by having government pick the winners, by subsidizing R and D, and by reducing imports of foreign technology; and those policies designed to increase the market for high-technology firms through government purchasing preferences for articles produced in Canada (and perhaps, also, for firms owned by Canadians) and by the promotion of mergers. The authors accept the fact that the general developmental effects or externalities of R and D may justify subsidies, and they note also that foreign competitors receive such subsidies, but they prefer tax breaks rather than grants since tax breaks are more consistent with potential product marketability. They have little confidence in the other proposals and believe rather than the reduction of trade barriers of all kinds is an essential policy.

Many persons believe greater subsidies for R and D are one important means of moving Canada to a new and more sophisticated industrial structure. I have no doubt they will play a role, but I greatly doubt that we have much advanced our understanding of how best to proceed in this area, despite the volume of recent public discussion on the subject. Let me state just four questions, some of which are mentioned by the Wonnacotts. First, to what extent and in what areas are we better advised as a nation to buy rather than develop technology? One point here is that we can get a great deal of it fairly easily through parent-subsidiary ties, but the question is what real price we pay for this compared with other ways of obtaining technology. A second point is the net general developmental benefits that might come by doing one's own R and D in more areas. These are cost-benefit questions, but I regret to say that reasonably clear answers are far from evident. Note that I am talking about the costs and benefits to society and not to particular groups or a particular industry, which is quite a different matter. The Wonnacotts raise this issue at least three times but do not resolve it, nor does the more general literature in Canada, so far as I know.

Secondly, assuming we were to develop reasonable estimates of the social rates of return to increased public funds for private R and D, we have still to determine whether that use of public funds pays off better than other uses. Public investment in knowledge can take various forms. Would a greater effort to increase the marketing capabilities of small and medium-sized firms pay off better in terms of exports or import-substitution, for example - the kind of investment needed to reduce costs of

search for information and contacts? It may also be noted that, despite the increase in management skills, studies by Don Daly and others still show some extraordinary weaknesses in the scope and depth of this important agent of production.² It would not be difficult to extend this list, or to broaden it by considering tax cuts or regulatory changes that would also have significant effects on growth and development. My point is simply that every study of the sources of growth, including the leading sources, suggests that a range of factors and approaches are important, and that we concentrate on one or a few at our peril.³

Thirdly, whether discussing public investment in R and D or anything else, I think it is important to distinguish whether the resulting gains are captured by owners of private property rights or whether they accrue to the public at large. The case for public subsidy rests on the view that there are gains to the public at large that cannot be appropriated by private investors (and which exceed the subsidy); hence the private sector will not undertake the investment. To the extent that the gains are appropriated by private owners, the case for public subsidy diminishes. If there are problems in borrowing funds in such circumstances, the solution is an improvement in capital markets, not a commitment of unreturnable public funds. Finally, as David Winch noted in a talk he gave recently, a problem has arisen about the credibility of governments and other institutions.⁴ In this case there is a serious question about the stability of the policy environment, notably with regard to inflation but also in other ways. As regards the present point, why would we expect businessmen to undertake heavy research investments with a long-term pay-off, if any, if governments keep changing the rules - for example, by offering a competitor a larger subsidy shortly afterwards? Why undertake related investment for the foreign market if there is a strong possibility of countervailing duties? A reasonably stable

2 D. Daly and R. Peterson, 'On bridging the gaps.' Management Science 20, 4, Part II. See also D. Daly and S. Globerman, The Tariff and Science Policies. (Toronto: University of Toronto Press for the Ontario Economic Council, 1976)

3 One can argue that investment in knowledge or improvement of productivity is generally needed in most such cases, but this is so broad a circumstance that the term R and D loses all meaning.

4 David M. Winch, 'Science and Technology.' Paper to the Royal Society of Canada, Montreal, June 1980.

policy environment may be the best way to guarantee more R and D, among other objectives.

I would like to conclude by extending the concept of trade barriers to encompass a wider range of issues that deserve attention in terms of any industrial strategy. In doing so, I do not mean to diminish the importance of macro policies: indeed, I suspect that much of the discussion of industrial strategy comes from the failure to find over-all monetary, fiscal, and regulatory policies that will more fully realize the traditional objectives of macro policy, and that we would spend less time looking for micro approaches if our over-all goals were better realized by macro policy.

Nevertheless, several extensions of the trade barriers approach are warranted. I would entirely agree with the Wonnacotts' emphasis on the need to enlarge external markets, but it seems to me that their paper, perhaps unintentionally, somewhat underestimates the importance of the domestic market and the linkages to the foreign market. I would agree that there are problems in achieving economies of scale by concentrating on the domestic market, not least the possible increase of monopoly, but this is not the case for all products. Moreover, as the authors recognize, there are growing problems of reduced size of the present Canadian market because of government impediments to trade within Canada.⁵ It is difficult, as the authors note, to justify the strengthening of government procurement policies just as we are entering a process under the Tokyo Round where we may secure greater access to such procurement abroad, and vice versa. But it might be a very good idea to standardize such policies across Canada, instead of having ten such policies, and even better if that standardization permitted us to negotiate for greater standardization and access to government procurement programs abroad. Again, I would agree that there are substantial dangers to simply allowing mergers without also liberalizing trade, but a more effective mergers policy is overdue in this country and should be pursued - once again - whether progress on the trade front is rapid or slow, and especially if it is slow.

I would conclude by suggesting that the returns to economic analysis and to public policy alike would be greater if we gave much more attention to future studies to the realities that are with us now, and less to yes-

5 See A.S. Safarian, Ten Markets or One?, Ontario Economic Council, discussion paper, 1980.

terday's questions. The fact is that direct investment inflows to Canada have fallen while outflows have exceeded inflows for most of the past decade. Even if we include retained earnings with flows, the outflow was about \$3 billion in 1978 compared to an inflow of about \$4 billion. Canadian business, including foreign-owned business in part, has become multinational on an increasing scale. How far do such outflows reflect an efficient way to serve foreign markets, and how far are they a response to tariff and non-tariff barriers or to investment incentives abroad? These have very different effects for Canadian development and suggest different Canadian policy responses. Evidence from the European Common Market suggests that direct investment is as likely a response to the lowering of trade barriers as is specialization for export or import, but it is not clear how much of this is in response to an increase in non-tariff barriers.⁶ How the multinational firm (foreign-owned and Canadian-owned, actual or potential) reacts to a given decline in tariff and non-tariff barriers is an issue on which we need far more work. We also need to know more about the alternatives to the firm and to exports as ways of serving foreign markets efficiently. Most of these points are noted by the authors in this paper and pursued, in some cases, in other work they have done. I note them here partly to encourage them and others in this work, and also because I believe Canadian governments are soon going to have to decide where our interests lie. On the one hand, we can make only minimum concessions to the Tokyo Round and to attempts to standardize policies towards multinational firms. We would continue at the same time to expand our own non-tariff barriers and to offer further financial incentives to multinational firms while exacting performance requirements in return. On the other hand, we can decide we have more to gain by helping to realize as fully as possible what the Tokyo Round has to offer and also by joining fully in bilateral and multilateral attempts to constrain the investment war that seems to be developing between governments. It will be interesting and important to see how we choose. Personally, while I agree with some of the gloomy forecasts we have heard at this conference, I believe some of the changes on the world and domestic scene also present opportunities. The quality of our private and public responses to these problems and

6 L.G. Franko, 'European multinational enterprises and the integration process.' In Gerard Curzon and Victoria Curzon, eds, The Multinational Enterprises in a Hostile World (London: Macmillan, 1977)

opportunities is important. To paraphrase an earlier speaker, I do not think it is a case of paradise lost so much as paradise in limbo, until we decide what to do about it.

Can Canada be insulated from developments abroad?

John Helliwell

INTRODUCTION

The great openness of the economies of Canada and the provinces makes them very vulnerable to outside economic pressures. This produces opportunities as well as risks. Every change in the world economy provides new ways to capitalize on our skills and resources. But these same changes impose costs and losses for all those whose skills and machines were more suited to the old regime. If all such changes were irreversible then there would usually be an economic payoff to fairly fast and forward-looking adjustment, especially if the external changes could be foreseen soon enough. Even so, the adjustments would not be painless, because inevitably there are many skills, factories, and minds committed to products and processes that are not viable in the long term, and adjustment usually imposes some costs of adapting as well as recognition of past mistakes or bad luck.

The deepest economic problems are not posed by irreversible and widely foreseen changes in the world scene, but by changes that may or may not be temporary. The basic economic rule is that it often pays to ride through, or insulate against, temporary changes while it almost always pays not to insulate against permanent changes.¹ Thus the most difficult

I am grateful for the very helpful commentaries prepared by Robin Boadway and John Haberer.

1 As Robin Boadway emphasizes in his commentary, the desired speed of adjustment to permanent changes depends on the costs of adjustment, which are often less for phased than for immediate full adjustment. In addition to the possible advantages that he notes for phased adjustments, a phased and diversified adjustment also permits more to be

choices for individuals, firms, and governments arise when it is impossible to tell whether or not the external changes are likely to be reversed. Since this is usually the case, it follows that there are no simple answers to how fast and how far the domestic economic structure should be adjusted in light of current international conditions.

If I am to be at all helpful, I shall have to use examples. I shall therefore proceed with two specific questions. First, to what extent can and should Canadian interest rates be insulated from changes in U.S. interest rates? Secondly, to what extent can and should Canadian national and regional energy prices be insulated from changes in world oil prices? Those are such big and important questions that I cannot even attempt to be complete in my treatment of them, but shall rather use them to illustrate the reasons why insulation is desired and the difficulties that it can pose in application.

HOW MUCH MONETARY INDEPENDENCE FOR CANADA?

Let me first set out some theoretical extremes and then review some empirical evidence. In a frictionless world of perfect foresight and flexible exchange rates, each country's price level is set by its own money supply, all countries have the same real interest rate (i.e. the actual interest rate less the expected rate of inflation over the term for which the interest rate is fixed), and each country's nominal interest rate is equal to the internationally set real interest rate plus the expected rate of domestic inflation. The spot foreign exchange rate is set to equalize the prices of tradeable goods in all countries, and the forward exchange rate is set (in the foreign exchange market) to equalize the expected future prices of tradeable goods. The actual exchange rate moves in lock-step with international differences in inflation rates. Since nominal interest rates also differ internationally by the expected differences in inflation rates, then net yields (after adjusting for expected changes in the exchange rate) are the same in all countries. In that sort of world there is either no monetary independence or complete monetary independence, depending on how

learned about the costs and benefits in practice of various ways of making use of the opportunities of the new circumstances.

you choose to look at things. Each country can, by altering the level and rate of growth of its money supply, alter its price level, interest rates, and inflation rate. This sounds like a lot of independence, until you note that the real interest rate is unchanged and that the higher or lower inflation rate is exactly offset by a change in the exchange rate, so that nothing real is changed. This rather extreme equilibrium framework is not of much help for analysing the Canadian options in response to higher U.S. interest rates, because under these theoretical assumptions any anti-inflationary reductions in the rate of growth of the U.S. money supply should, if they are believed to represent a new regime, lead to lower interest rates (because the expected rate of inflation is lowered, while the real interest rate, presumed to be set by productivity, thrift, and international arbitrage, is unchanged), whereas in fact U.S. interest rates have risen, and risen dramatically.

The extreme opposite view is that monetary policy determines the interest rate but has no effect on actual or expected inflation rates. This theory, which is the standard textbook one, explains income and the interest rates by changes in spending and in the money supply. In this framework, the ability to insulate the domestic economy from the direct effects of changes in foreign interest rates depends on how easily capital flows from one country to the other. If the two capital markets are tightly linked, then interest rates in the two countries can differ only to the extent that they are matched by expected changes in the exchange rate.

Which of the two extreme theories is more correct? Both are useful, in their own ways, but they apply to different time spans. The equilibrium model spells out the long-term relationships that are likely to hold on average between countries that are reasonably open to international trade and capital movements. Over a ten-to-twenty-year horizon, the national price levels in two related countries will serve to predict the exchange rate for their two currencies within a ten-to-fifteen per cent margin of error (see for example Officer 1980), whereas very large and sustained international differences in inflation rates are usually offset to a substantial extent by differences in inflation rates and hence by changes in the exchange rate (see, for example the much cited evidence on the German hyper-inflation of the 1920s, as described by Frenkel 1980).

On the other hand (so often held behind the economists' back while you are shown the first hand), it is quite apparent from the available

evidence (surveyed in Helliwell 1979) that in the short run, exchange rates do not move so as to maintain either purchasing power parity or the international equality of interest rates. In broad terms the classical equilibrium framework is suitable for putting decade-to-decade changes in their context, while the other theoretical extreme, with prices and expected inflation rates determined outside the monetary system, is more relevant in the short run. However, as the literature based on so-called rational expectations has pointed out so often, widely shared expectations of long-term effects produced big changes even in the short run. Thus it is difficult for policy-makers to try to exploit short-run 'trade-offs' to deal with anything other than short-run disturbances.

Some of the recent policy discussion about Canadian and U.S. interest rates draws partly from both theoretical extremes. For example, it has been argued that Canada need not follow U.S. interest rates to their record high levels because the higher U.S. rates reflect the higher inflation rate there. It is further argued that not to follow the U.S. interest rates would lead to smaller capital inflows and a weaker Canadian dollar, but that the resulting stimulus to the export- and import-competing industries would help to offset the Canadian repercussions of the looming U.S. recession. The first point draws from the equilibrium model, but if it is true it must be that the future inflation rates are expected to be higher in the U.S. than in Canada. But if they are, then the forward Canadian dollar should be at a corresponding premium, the Canadian dollar should be gradually appreciating, and there is no need for an increase in the Canadian money supply and no reason to expect a drop in the value of the Canadian dollar. The Canadian dollar would drop only if the Bank of Canada wished to have Canadian interest rates below those in the United States by more than the difference in inflation rates, and undertook an expansionary monetary policy in order to achieve this result.

It is at this point that the predictions of the two theoretical models point in opposite directions. In the equilibrium model, an expansionary monetary policy (if it is taken to foretell increases in rates of monetary growth) would, by raising the expected rate of inflation in Canada, lead to higher rather than lower interest rates in Canada. By contrast, the short-run model would say that an expansionary monetary policy would lower real and nominal interest rates in Canada, thus insulating the Canadian economy from the real effects of the much higher U.S. interest

rates.² These contradictory conclusions highlight the difficulties of knowing whether it is possible or desirable to insulate the Canadian economy from high interest rates in the United States. The contradiction lessens somewhat if we note that there is a short-run, long-run distinction between the two theories that matches the distinction I made earlier between permanent and temporary changes in circumstances. In so far as the present high interest rates in the United States are due to an unexpectedly sharp tightening in U.S. monetary policy, then a continuation of the 'gradualist' Canadian policy would lead to at least partial insulation of Canadian interest rates from the U.S. rates. If the tighter U.S. monetary policy achieves its intended effects on the price level and on expected U.S. inflation rates, then U.S. nominal interest rates will drop, perhaps to their normal relation to Canadian rates, and perhaps even lower if the United States eventually maintains a tighter long-term monetary policy than Canada. Under these circumstances, it only makes sense to copy the U.S. monetary policy, and hence to adjust rather than insulate if it is believed that such a policy also makes sense in Canadian terms. In general I would suggest that short-term copying of U.S. policy is desirable only if it is consistent with the gradualist Canadian strategy. Gradualism involves a long-term investment for a long-term effect, and there can be no long-term payoff if the credibility of the policy is cast into serious doubt.

What if, on the other hand, the rise in U.S. interest rates is fuelled by inflationary expectations that are shared to some extent in Canada? Here the monetary authorities are in a cleft stick. If they try to dampen the interest rate increases by expanding the money supply beyond the established range, then they add more fuel to inflationary expectations, and interest rates may even rise farther rather than fall. Hence, in so far as the nominal interest rates are higher because of inflationary expectations that are falsely imported from the United States (in the sense that the established Canadian policies will not in the long term support an inflation rate that high), the Bank of Canada cannot act to insulate Cana-

2 There is a third argument (e.g. Pope 1981) suggesting that inflation comes about from excessive monetary growth but that the Bank of Canada could lower interest rates without altering the money supply. The widespread notion that a central bank has two independent instruments (interest rates and the money supply) may have been fostered by the common practice of announcing bank rate changes as though they were independent of the central bank's control of the money supply.

dian interest rates, and is reduced to trying to talk its way out of the expectations-based links between U.S. and Canadian interest rates.

Finally, if the higher U.S. interest rates are due to increases in the consumer price index (CPI), which includes imported oil and high weights on current interest rates, rather than in the national output price (the American CPI has recently been rising almost twice as fast as the American GNP deflator), there is a widely shared error in expectations about the U.S. inflation rate, an error that will be corrected when it is realized that real interest rates (in terms of inflation of output prices) are unsustainably high. Canadian insulation from this type of increase in U.S. nominal and real interest rates should be automatic because current interest rates do not enter the Canadian CPI with such large weights, and the large rises in the prices of imported oil have not yet been passed along to consumers. If the expectations link between U.S. and Canadian interest rates passes along this source of higher interest rates, even in the absence of Canadian supporting evidence, then once again the Bank of Canada is prevented from energetically increasing the money supply to hold down Canadian interest rates for fear of worsening the expectations it was trying to offset.

All of the foregoing makes the problem of policy choice seem easier than it is, principally because it discusses the insulation strategy as though the cause of the changes in U.S. rates were known with certainty. But the main problem, as I have already pointed out, is that the increases in foreign interest rates do not come with labels explaining the nature and duration of their causes. Thus it is necessary, in the absence of specific information, for the central bank to adopt a strategy that provides the right amount of insulation for some average pattern of shocks. This strategy often takes the form known as 'leaning into the wind.' If the circumstances are clearly such as to counsel fast adjustment rather than insulation, then the strategy is more aptly described as 'spitting into a gale.'

What empirical evidence is there about the degree of insulation provided by various monetary policies? To give you a rough idea, I shall report some results based on linking the RDX2 model of Canada with the MPS model of the United States. The main influences described above are included, and the complex processes for the formation of expectations are in most instances modelled as averages of accumulated information. This

means that, on average, disturbances are thought to be more or less temporary when they first occur, and their expected permanence increases as time passes without their disappearing. Under these circumstances, a tighter U.S. monetary policy (lowering by 1 per cent the annual rate of increase of the money supply, as measured by unborrowed reserves) raises U.S. short-term interest rates by 0.3 per cent at the end of the first year and 1 per cent in the third year, while by the fifth year the effects on inflationary expectations exceed the effects of monetary tightness, and interest rates are below control. By the end of five years, the U.S. price level is 3 per cent lower than control.³ If Canadian monetary policy is set by the RDX2 type of 'policy reaction function' based on historical evidence, a policy that has Canadian interest rates follow U.S. interest rates fairly closely, the Canadian price level is 0.6 per cent below control after five years and the Canadian dollar is lower by 0.7 per cent at the end of the second year and by more than 4 per cent at the end of the fifth year. That is the good news about inflation, and it takes a long time coming. Real output, on the other hand, is by the second year already 1.2 per cent lower in the United States and 0.3 per cent lower in Canada, and these effects build up in later years. What is the scope for insulating the Canadian economy from the effects of the U.S. monetary policy? If the Bank of Canada were to offset the direct effects of interest rates entirely (by setting Canadian interest rates at what they would have been in the absence of the tighter U.S. monetary policy, a trick that is much easier to perform with models than it is in the real world), Canadian output at the end of the second year would be almost unaffected by the U.S. policy. The value of the Canadian dollar would drop more than in the other case, by 1.4 per cent instead of 0.7 per cent at the end of the second year and the second-year Canadian price level would be marginally (0.1 per cent) higher. In the longer term, however, pegging Canadian interest rates in face of the U.S. monetary squeeze is not sufficient to insulate the Canadian economy from the real effects of the U.S. policy, because the slower growth of U.S. expenditures cuts into the demand for Canadian exports, and Canadian output is down substantially at the fifth year.⁴

3 This evidence is drawn from Helliwell and Maxwell (1974, 88-9), using floating exchange rates. The results for the policy of interest rate insulation are from Table 3, p. 97, in the same reference.

4 Real private output in Canada is down by 2 per cent with the interest rate held fixed, compared to 2.3 per cent if the U.S. rates are followed fairly closely.

Slightly more insulation against the real effects of the U.S. squeeze would be obtained if Canada held the money supply rather than interest rates fixed in the face of U.S. contraction. For example, a U.S. monetary and fiscal squeeze has effects on real output in Canada that are about one-third less if the Bank of Canada holds the Canadian money supply (M1) constant instead of holding the interest rate constant.⁵ This provides some evidence that sticking to a pre-established rate of monetary growth is more effective than either pegging interest rates or following U.S. interest rates in the face of a sharp change in U.S. monetary policy.

Throughout this section, I have suggested that the Canadian economy can be usefully insulated against temporary disturbances to the U.S. money supply and interest rates, but that the insulation is likely to become ineffective or counter-productive if it threatens the credibility of the Bank of Canada's gradualist strategy of reducing inflation by gradually reducing the rate of growth of the narrowly-defined money supply. But what if the link between the rate of growth of the narrowly-defined money supply and the rate of growth of prices, or even nominal income, were itself not credible? One of the ironies of the intellectual history of the past decade is that monetary growth rules have become securely established as the benchmark for monetary policy just at the time when computerized banking and the continuation of high inflation rates have combined to make demand balances technologically obsolete.

It is now quite feasible for the chartered banks and their customers both to benefit by arranging their affairs so that all end-of-day balances in chequing accounts are automatically cleared into interest-bearing deposit or loan accounts. The possibility for joint gain arises because reserve requirements are 12 per cent against demand balances and only 4 per cent against time and savings deposits. The higher inflation rates and nominal interest rates, the more the chartered banks lose by having assets tied up in non-interest bearing deposits at the Bank of Canada.

5 These results are from Tables 1A and 2A of Helliwell and McRae (1976). The U.S. policy is a government expenditure cut equal to 1 per cent of real GNE with the rate of growth of the money supply lower by about 1 per cent per year (fixed R case). Comparing the figures in the right-hand columns of Tables 1A and 2A shows the real output effects throughout the first six years to be about two-thirds as large if the insulation policy is based on pegging the money supply rather than the interest rate in response to the U.S. shock.

On the other hand, computerized banking has made it much easier for banks and their customers to transfer funds from one account to another and to reduce the uncertainties in their streams of cash payments and receipts. Even without the active encouragement of the chartered banks, households and firms would be economizing on their demand balances. But when banks and their customers both stand to gain because of the split reserve requirement, it will be very surprising if there are not further dramatic reductions in the rate of growth of M1 relative to broader measures of bank liabilities.

The upshot of all this is that the money supply according to the measure chosen for control by the Bank of Canada may well grow much more slowly than total liquidity or than nominal GNP over a period of many years. Apart from any political issues raised by a policy of tight money, the technological advances, combined with the effect of high interest rates are likely to mean that the year-by-year reductions in the target and actual growth rates of M1 will have little restraining effect on broader measures of liquidity or on inflation itself. There are lots of advantages for the Bank of Canada in working with M1 - for example, its cycles have generally led those of the broader monetary aggregates - but it is at least possible that other changes may be reducing these advantages to nothing. If the link between the chosen money supply, or any given money supply, and the rates of interest and inflation should become very unstable, then the whole framework of monetary management will have to be thought through rather carefully. If one comes to the conclusion that the credit pyramid depends on the payments system but not on the size of the money stock, then the whole nature of fiat money is called into question, and we are not even sure what determines the general level of prices. These questions are not grounds for panic, but they must at least condition the application of monetary growth rules, and they will probably lead the monetary authorities once more to define tightness in terms of the cost and availability of credit. These criteria might differ from those advocated by the Royal Commission on Banking and Finance twenty years ago chiefly by their emphasis on real rather than nominal rates of interest. These uncertain prospects underscore the difficulties that the monetary authorities face in deciding which way and how hard to lean against the winds of change that blow from abroad.

SHOULD THE PRICE OF OIL BE MADE IN CANADA?

It would be hard to write a paper about the domestic impact of foreign shocks without dealing with the direct and indirect effects of the quadrupling of world oil prices in 1973-4 and their further doubling in 1979. For the oil-importing countries these large increases in the price of the most important commodity in international trade represented major direct shocks to national income. I shall not be dealing in this paper with the macroeconomic effects of higher world energy prices, for two reasons. First, the issues were discussed at some length by Tom Wilson (1980) in his paper to an earlier OEC conference, and by me in a subsequent paper (Helliwell 1980a). Secondly, I have already discussed macroeconomic insulation and policies in the previous section of this paper. I now wish to concentrate on the increases in world oil prices not so much as contributions to stagflation in the world economy, but as a change in world relative prices. I wish to assess the costs and benefits, from the Canadian point of view, of insulating Canadian energy users from the effects of the 1979 doubling in the world price of oil. If I were to do the macroeconomic analysis of this issue, I would argue much as I did in the previous section, that the direct effects can be insulated against, both by phased increases in energy prices and by steady macroeconomic policies, but that Canada's exposure to the world economy is so great that the indirect effects of the higher oil prices through world prices and incomes are bound to affect Canada adversely whatever insulation policies may be adopted. But that sort of analysis is not what I shall try to do in this section. I shall start by reporting a rough accounting of the efficiency and distribution effects of different energy pricing policies in Canada. Then I shall give some microeconomic examples to show the type of industrial structure that is likely to evolve if Canadian energy prices are for too long, and by too much, insulated from world energy prices.

Table 1⁶ shows quite clearly that from a Canadian point of view there are apparently net economic benefits (putting aside macroeconomic questions) from a policy of partially insulating Canadian energy users from the high world energy prices. There are three cases modelled. In Case 1, the wellhead prices paid to Canadian producers rise by \$3 a barrel in-

6 This table is adapted from Table 2 of Helliwell (1980b).

initially, and then by larger amounts towards a price of \$30 per barrel (in 1980 dollars). This is about 80 per cent of the current Canadian dollar price of world oil, and about 65 per cent of the forecast world price in 1990. In Case 1 the subsidies on imported oil, which are estimated to be more than \$3 billion in 1980, are assumed to be financed on a continuing basis by general federal revenues or additional federal borrowing. The subsidy on synthetic oil⁷ is assumed to be paid, as it is now, by means of a per barrel levy on the output of all Canadian refineries.

In Case 2, Canadian oil producers receive the same prices as in Case 1, but Canadian oil consumers pay a 'blended' price that covers not just the levy on synthetic oil but a similar charge that is designed to recover 10 per cent of costs of the import subsidy in 1980, 30 per cent in 1981, 50 per cent in 1982, and eventually 100 per cent in and after 1985. These higher prices have the effect of reducing oil imports by 100 000 barrels a day in 1985 and increasing total economic benefits to Canadians by \$20 billion, mostly by reducing the waste of oil, and partly by accelerating the demand for and production of natural gas.

The third case consists of moving oil and gas prices quickly towards world levels. This has the effect of sharply reducing the wasteful use of crude oil and natural gas, but the net economic benefits to Canadians are actually lower than in Case 2 (although they are higher than in Case 1). Why do Canadians apparently obtain, on average, economic benefits that are lower in Case 3 than in Case 2, even when account is taken of the waste induced by the low energy prices? The basic reason is that the oil-and gas-producing firms are mostly owned abroad, so that up to a certain degree of price insulation for Canadians the economic costs of wasteful use are more than compensated for by the redistribution of the remaining benefits away from the foreign-owned firms and toward Canadian

7 In these results, synthetic oil is assumed to be sold at world prices. However, it should be noted that the federal government has recently declared 'force majeure' (on the basis of the 1979 doubling of world oil prices) to abrogate the agreement establishing the payment of a subsidy equal to the difference between the world and domestic prices for crude oil. In the absence of evidence about what prices are likely to be established as a basis for the subsidy, the results in Table 1 assume that world prices will continue to be paid on all current and future production of synthetic oil. There are assumed to be five synthetic oil plants of Syncrude size (or their equivalent) by the end of the century, with new plants coming on stream every five years subsequently, in order to replace expiring plants.

TABLE 1

Net economic rents from conventional and synthetic crude oil and natural gas under different pricing policies (billions of end-1980 Canadian dollars)

	Total rent (1)	All producers (2)	Canadian consumers (3)	After waste (4)	Federal government (5)	Provincial government (6)	Total Canadian rents (7)
1 'Federal' pricing case							
Domestic oil prices rise \$3/yr to 1990 then move towards \$30/barrel in 1980 prices. Gas at 85% of btu parity. Im- port subsidy financed on a continuing basis from gen- eral revenues.	Oil 268 Gas 256 Total 524	47 26 73	97 104 201	10 67 77	16 30 46	108 82 190	231 222 453
2 <u>User-financed import subsidy</u>							
Federal pricing case with import subsidy gradually becoming fully self-financing by 1985.	Oil 255 Gas 248 Total 503	48 25 73	181 98 279	24 64 88	-82 30 -52	109 81 190	217 214 431

3 'Provincial rights' case

Domestic oil prices rise									
\$10 a barrel per year									
to 100% of world		Oil	285	75	38	4	34	137	226
price. Gas at 95%									
of btu parity. 7.5		Gas	258	45	36	17	46	115	207
trillion cubic feet									
(tcf) additional gas									
exports 1986-2000.		Total	543	120	74	21	80	252	433

NOTE: All economic rents present values of all past and future costs and returns, measured at the end of 1980 in terms of end-1980 prices.

Assumptions:

(i) World oil price equal to \$32 U.S. (\$37.44 Canadian) a barrel in 1980, rising thereafter at 2 per cent a year in real terms until the end of the century, after which time it is constant in real terms. This price is below the middle of the range of OPEC export prices at the end of June 1980.

(ii) In the 'federal' pricing case the producers of conventional oil receive an average wellhead price of \$16.25 a barrel in 1980 (equal to the 1 January price of \$14.75 plus 50 per cent of \$3) in 1980, \$19.25 in 1981, \$22.25 in 1982, and so on until 1990. After 1990 the price is adjusted so as to close 10 per cent of the gap between its (inflation-adjusted) value in the previous year and the 'target price' of \$30 a barrel (in terms of 1980 prices).

In the 'provincial rights' case, the producers of conventional oil receive an average wellhead price of \$19.75 a barrel in 1980, \$29.75 in 1981, \$39.75 in 1982, and the world price in and after 1983.

TABLE 1 (continued)

(iii) Natural gas for domestic users (at the Toronto city gate) is priced at 85 per cent of btu equivalence with domestic crude oil delivered to Toronto in the 'federal' case, and at 95 per cent in the 'provincial rights' case. Prices elsewhere reflect differences in transport costs and lower prices to BC and Alberta users. In all cases the natural gas prices gradually move towards 100 per cent of btu parity as the time approaches when Canadian demands are expected to exceed the supply from non-frontier sources.

(iv) Natural gas export sale priced according to the U.S.-Canadian agreement that came into effect on 1 April 1980. This is modelled by pricing natural gas exports at btu equivalence with the world crude oil ninety days previously, less a 'transportation adjustment' of 22¢ U.S. per million cubic feet (mmcf). The latter adjustment is assumed to be increased in subsequent years at the general rate of inflation. This gives an average export price of \$5.61 U.S. or \$6.57 Canadian per mcf in 1981. The average export price for 1980 is assumed to be equal to the \$4.47 U.S. per mcf price established 17 February 1980.

(v) The general rate of inflation is assumed to be 7.5 per cent in 1980 and 6 per cent thereafter. Real Gross National Expenditure is assumed to grow at 4.2 per cent annually from 1979 to 1990, and at 3.2 per cent thereafter.

(vi) The nominal discount rate used is equal to the assumed rate of general inflation (the actual rate is used prior to 1980) plus 7.44 per cent. The latter figure, which is a calculated average real alternative supply price of capital to Canadian business, is also used as the after-tax opportunity cost on invested capital when calculating net economic rents to producers. Economic rents to governments are net of an income tax opportunity cost equal to 3 per cent of capital invested. Total rents to the resource are net of a real capital rental charge equal to $7.44\% + 3\% = 10.44\%$ of undepreciated capital.

(vii) Production of synthetic crude oil from the Alberta oil sands is set exogenously and assumes that further plants are added every five years, starting in 1986. Since the assumed lifetime of the plants is twenty-five years, and production is approximately 130 000 barrels a day in each plant, the steady-state production of synthetic oil is approximately 650 000 barrels a day. Assum-

ing Syncrude cost estimates apply to all plants, this sequence of plants produces net economic rents totalling over \$50 billion if the output is sold at the forecast world prices. Under existing tax and royalty arrangements and with 12 per cent federal and 36 per cent Alberta ownership in each plant (as in Syncrude), slightly more than half of the economic rents flow to the Alberta government, and the rest to the producing firms, with the federal government position slightly negative. The rents from synthetic oil production are included with the oil rents in the table.

(viii) The price of refined oil products consumed in Canada is adjusted to include a per barrel charge known as the 'Syncrude levy'. This is set large enough, in each year, to cover the difference between the world price and the domestic price on all output from oil sands plants. Under present arrangements all output from these plants is guaranteed a market at world prices. The size of the Syncrude levy naturally varies depending on the domestic price of crude oil. With the assumed federal pricing strategy it is roughly \$2.50 a barrel in 1985; while with the 'provincial rights' pricing policy it is zero in 1985 (because the Canadian price reaches the world levy by 1983).

(ix) In Case 2 only, the Syncrude levy on refined products is increased to cover 10 per cent of the costs of the import subsidy in 1980, 30 per cent in 1981, 50 per cent in 1982, 70 per cent in 1983, 90 per cent in 1984, and 100 per cent in and after 1985. In this case, the 1985 combined synthetic oil and import levy is \$8 a barrel.

(x) Natural gas exports in the 'federal' case include the 3.75 trillion cubic feet (tcf) of new exports 1980-7 approved by the National Energy Board in December 1979. In the 'provincial rights' case the level of the natural gas exports is increased an additional 0.5 tcf a year from 1986 to 2000, inclusive. Thus additional exports are used to (more than) offset the reduction in domestic natural gas sales caused by the rapid move towards world prices for crude oil and natural gas.

Meaning of columns:

Column 7 is the sum of columns 3, 5, 6, and 21.5 per cent of column 2, where 21.5 per cent was the value estimated in 1976 as the Canadian equity ownership proportion in non-frontier natural gas and crude oil production.

consumers. The preference for the low domestic prices in the face of high world prices is even more apparent when one considers the situation of Ontario residents, who have little equity in the producing firms and no share of the Alberta government's ownership rights. Excluding the effects of equalization payments, the net economic benefits to Ontario residents are about \$10 000 per capita in Case 1, and \$12 000 per capita in Case 2, compared to \$7000 in the high-priced Case 3. Ontarians, like Canadians as a whole, are better off paying for the oil import subsidy through their oil prices than through their income tax bills, but if they had to choose between the most wasteful Case 1 and the high-priced Case 3 they would vote for the waste. This conclusion still holds if the calculations are extended to include the effects of equalization payments. This is done in Table 2, which also shows the substantial improvement in the Ontario position that would take place if the current equalization payments system were replaced by an interprovincial revenue-sharing pool of roughly equivalent size.

Distribution effects provide the essence of the cases made by Ontario and the federal government for insulation against higher world oil prices. However, a public finance specialist would be quick to point out that changes in the tax system and the equalization payments system could be much more efficient than low prices in increasing the share that Canadians, including Ontarians, have in the economic benefits of Canadian oil and natural gas. I shall not deal with those possibilities in this paper, because I wish to explore a more insidious difficulty with the policy of insulating Canadians from the effects of high world energy prices. The economic waste calculations reported in Case 1 of Table 1 have already illustrated that if Canadians are too well insulated by a 'made-in-Ottawa' oil price, their houses will be badly insulated against the 'made-in-Winnipeg' rigours of winter. I now wish to press the matter further and to see to what extent the remaining 'consumer rents' actually flow, as intended, to Canadians. There are four types of 'leakage' to consider: short-term economic waste, short-term leakage of low-price benefits to foreigners, long-term waste due to an inappropriate economic structure, and long-term leakage to foreigners through projects designed, directly or indirectly, to package low-priced Canadian energy for the benefit of foreign owners and purchasers. The issue of short-term economic waste, and to some degree the longer-term economic waste, are covered by the econo-

mic waste calculations shown in Table 1. I shall therefore concentrate on the last three types of leakage.

I have two examples of short-term leakage to foreigners. The first is quite straightforward, for it has by now been noted in places much further from the U.S. border than Windsor and Vancouver that there has been a large increase in same-day double border crossings, and that the southbound cars, trucks, buses, boats, and planes all have full fuel tanks. Thus when we see that Canadian gasoline consumption rose by 3 per cent last year while falling 4 per cent in the United States we cannot simply infer that Canadians drove 7 per cent more carefree miles than their U.S. counterparts. Canadian taxpayers are now subsidizing each barrel of imported oil by about \$20, or 60¢ a gallon. Since every extra gallon of gasoline sold in Canada means a one-gallon increase in our net imports of oil and products at world prices, every car border-hopping for a fifteen-gallon fill-up receives a \$9 subsidy from the Canadian taxpayers. This cannot seem a very efficient way to run either foreign aid or energy policy, especially when the truckers start filling up their newly installed spare tanks.

A second type of short-term leakage is slightly more complicated. Many of the energy-intensive tradeable goods produced in Canada and sold at home and overseas - a variety of products ranging from aluminium to newsprint to petrochemicals - are sold at prices that reflect world supply and demand, and hence world energy prices. Thus a rise in world energy prices not matched by Canadian prices leads not to Canadian final goods prices that are lower than foreign prices, but primarily to higher profits to the Canadian producers of those goods. The profit increases are especially large for the manufacturers of the most energy-intensive products, giving rise to energy-wasting investment incentives of the type I shall describe shortly. And if those firms are owned by foreigners the increased profits will immediately accrue to foreign investors, whether or not they are reinvested in Canada. This type of foreign-owner-user leakage is not captured in the distribution calculations reported in Table 1.

What about the longer-term effects? The principal long-term effect is that the pattern of low Canadian energy prices will inevitably spawn an energy-wasteful industrial structure that is essentially backward-looking in its relative use of energy, labour, and capital. The high-technology growth industries over the next twenty years will be those designed to

TABLE 2

Impact of alternative energy pricing and equalization payments policies on Ontario and Alberta (1980 dollars)

	With current equalization payments system applied to 50% of future oil and gas revenues			With interprovincial revenue sharing of 25% of future oil and gas revenues		
	Total rents (\$ billions)	Per capita rents (\$000)	Total rents (\$ billions)	Per capita rents (\$ 000)	Total rents (\$ billions)	Per capita rents (\$ 000)
1. 'Federal' pricing case						
Domestic oil prices up \$3/ yr to 1990 then move to- wards \$30/barrel in 1980	78	9	189	92	95	11
prices. Import subsidy financed on a continuing basis from general revenues.					172	84
2. User-financed import subsidy						
Federal pricing case with import subsidy gradually becoming fully self- financing by 1985.	95	11	193	94	112	13
					176	86
3. 'Provincial rights'						
Domestic oil prices move up \$10 per barrel per year to 100% of world price. Gas at 95% of btu parity. 7.5 tcf additional gas exports 1986-2000.	49	6	234	114	76	9
					206	100

NOTE: The divisions of economic rents among the provinces is based on oil and gas consumption for the consumer rents, production for provincial government revenues, population for the Canadian share of producer rents. The distribution is done according to the average federal tax payments by taxpayers in different provinces. The exogenous weights used are as follows:

	<u>Population (mid-1979)</u>	<u>Production of crude oil</u>	<u>Production of natural gas</u>	<u>Federal tax collections</u>
Atlantic provinces	0.0948	-	-	0.0596
Quebec	0.2660	-	-	0.2360
Ontario	0.3590	-	0.028	0.3867
Manitoba	0.0436	0.008	-	0.0360
Saskatchewan	0.040	0.107	0.022	0.0337
Alberta and NWT	0.0867	0.855	0.820	0.1201
British Columbia and Yukon	0.1095	0.030	0.130	0.1279

The details of the modelling of the current equalization payments system and the alternative inter-provincial revenue-sharing pool are described in Helliwell (1980c).

harness modern micro-electronics to energy-saving and material-saving production of goods and services. A country that has especially low energy prices is an especially bad market in which to develop and test-market such products and processes, so that Canadian entrants in these areas of great potential will be starting at least several paces behind their foreign competitors. Thus opportunities for new developments and industries are likely to be blunted and obscured by the energy-price insulation. In addition, the rest of Canadian industry is likely to become increasingly ill-equipped to withstand world competition when the price insulation is eventually removed.⁸

I have two examples to offer, both illustrating how the policy of insulating Canadian energy prices poses increasing problems for the long-term efficiency of the Canadian industrial structure. Both examples are drawn from British Columbia, where the prices of energy for industrial use, especially natural gas and electricity, are substantially below those in Ontario. In 1978, the wholesale price of natural gas in British Columbia was set at \$1.17 per thousand cubic feet (mcf), and it has not been changed since. This is about 20 per cent of the \$6/mcf export price that should result from the new U.S.-Canadian gas-export pricing formula by the end of 1980, and less than half of the June 1980 city-gate price in Toronto.

The predictable consequence of these prices is that natural gas is being used uneconomically, such as for raising process steam for pulp mills in the interior of the province (where there are still large quantities of surplus wood wastes, some of which even require costly disposal) and drying coal for export (instead of burning the coal tailings that are otherwise wasted). Especially in the interior of the province, the economic potential for using wood wastes to replace natural gas and to co-generate electricity is very large, yet the low prices for natural gas, the low bulk prices for electricity (these have been increased recently, but they are still well below the costs of BC Hydro's new energy projects) have caused

8 There is always the hope that world prices may fall over the next 20 years, and hence that the energy prices paid by Canadians may be a better guide to the future than current world prices are. But the difficulty with this view is that such a reversal can only come about if there are dramatic innovations in energy-using and energy-producing technologies, but these developments are most likely to take place in those countries where the prices are high in the meantime.

mills to hold back major fossil-fuel replacement projects and electricity co-generation projects that would be very profitable if the forest firms were offered anything like the opportunity cost or even the replacement value of the natural gas they could save or the electricity they could generate.⁹ The irony is that although the BC Petroleum Corporation (the Crown corporation that buys all BC natural gas in the field and sells it to domestic distribution companies at a low price and to export customers at a high price) is in effect paying a very large subsidy to the pulp and paper mills, the value of this subsidy to the recipient mills is very much less than its cost to the taxpayers, because the mills have opportunities to use more wood wastes at costs not far from the current subsidized price.

The low energy prices not only stand in the way of re-tooling by existing industries for improved energy use: they also invite new entrants of startling energy intensity. Recently there have been proposals (or commitments) to expand Alberta's methanol production capacity fourfold, although the existing capacity was already well in excess of Canada's needs, and the producer was being accused of dumping into the U.S. market. Not daunted by the ballooning Alberta production, two prospective BC producers of methanol each proposed building 1250-ton per day methanol plants on the northern BC coast. Each plant would equal Alberta's current capacity, and each would use about 13 billion cubic feet of natural gas a year, more than 8 per cent of the natural gas now used in BC for all purposes. This amount of gas has at present an industrial price in that region of the province of about \$25 million, compared to an export value that will soon exceed \$75 million. Thus each methanol plant, if it were to obtain gas at the industrial price, would receive an annual subsidy of about \$50 million, or more than \$600 000 a year per employee. Recent economic analyses (see Eberlein 1980) of these projects have calculated that even if current industrial prices were raised by 30 per cent and increased thereafter at the same rate as world oil prices, the net transfer from the provincial and federal governments¹⁰ to the producing firms would exceed \$400 million for each plant, measured as present values

9 The results of this research are reported in Helliwell and Cox (1979) and in a number of other papers available from the Programme in Natural Resource Economics, University of British Columbia.

10 The contribution by the federal government arises because the federal government 'imputes' to the producing firms (and then taxes) the

in 1980 dollars.

In the energy model whose results are reported in Table 1, the economic rents transferred in this way would show up partly as waste but mostly as economic rents accruing to Canadian energy users. In the case of these methanol plants, the economic waste would be measured by the degree to which the methanol project was uneconomic if it had to pay the export price for natural gas,¹¹ and the remaining subsidy would be somehow divided between the export customers and the shareholders of the producing firms. The methanol plants are so close to straight export of natural gas¹² that the British Columbia government has been faced with an extreme challenge to its current policy (the newly announced policy is to charge at least replacement cost for energy used in the province) of using low-priced gas as a means of distributing the resource benefits within the province. The methanol projects have apparently been declared ineligible to purchase gas at the domestic industrial price, but there are no doubt many similar projects waiting in the wings to test any policy that is developed to avoid undue exploitation of the low domestic price. The key problem is that the current gap is so large as to invite any number of uneconomic users. On annual BC use of about 160 billion cubic feet, the difference between the domestic wholesale and export prices amounts to an annual subsidy of about \$650 million, or \$300 per capita. With discrepancies as large as this, it is not surprising that there have been, and will continue to be, many new proposals for developing and using BC energy

difference between the BC Petroleum Corporation's selling price and buying price for natural gas, after adjusting for transport costs. The BC Petroleum Corporation then rebates to the firms an amount sufficient to pay the tax on this 'deemed royalty'. This means that provincial crown corporation profits on exports of natural gas are effectively subject to a federal tax of approximately 30 per cent. The deemed royalty on domestic sales is calculated on the basis of the domestic wholesale price, so that 30 per cent of any increase in the BC wholesale price is received by the federal government, with the rest passing through the BC Petroleum Corporation to the BC government.

11 Eberlein (1980) calculates that if world methanol prices rise at the same rate as world oil prices, the projects would almost break even at the export price for natural gas.

12 The value of the output is 75 per cent natural gas, (valued at the export price), and value-added by the project is about 15 per cent labour and 85 per cent capital, compared to 70 per cent labour and 30 per cent capital for the economy as a whole.

resources. The growing size of the gap reveals another political problem that faces a government that attempts to adopt a policy of insulating domestic users from changes in the world price of energy. The government itself takes the blame each time energy prices are raised, unless smoothly operating automatic rules for dismantling the shelter are clearly established in the beginning. For example, how much easier would it have been, especially for the federal Conservative government of 1979, if the oil import subsidy had been made automatically self-financing from its advent in 1974? In the absence of such rules, the government can become paralysed, unable to agree on the necessary increases, which became even larger in the price of energy, yet increasingly open to charges that the energy resources under their stewardship are being squandered.

CONCLUSION

The policy implications of my analysis and examples are not very difficult to find, although the right remedies may be hard to find and even harder to implement. In both main sections of the paper I have provided some support for insulation against short-term disturbances, whether to the economy as a whole, or to important sectors of it. However, I hope that my examples of the unpalatable consequences of excessive insulation, of the difficulties of phasing out shelter programs, and of the inefficient and backward-looking industrial structure that may result have also inspired a sense of caution. The biggest danger, whether for households, for firms, or for governments is probably the false assumption that unpleasant changes will go away if they are ignored. Present and future changes in the world economy must be analysed very clearly, and divided, in a hard-headed if uncertain way, between permanent and transitory changes. Only then is it possible to design imaginative and forward-looking responses to the long-run changes in harmony with short-run assistance to those most affected by the temporary shocks and the costs of adjusting to the new circumstances.

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John Haberer

It is probably safe to assume, given the interests of the sponsors of this conference, that our focus should be on economic developments abroad and their effect on the Canadian economy. This is obviously the assumption made by Professor Helliwell in his treatment of our subject. However, I feel that it is worth noting at least that the Canadian economy may be very much affected by political, social, or foreign policy developments as well.

I do not propose to go into this aspect of our subject in any detail. Rather, I simply wish to raise the point that Canada has been inclined over the past decade to act independently on international political, social,

or foreign policy issues. The reduction in our support of co-operative defence schemes, specifically NATO and NORAD, is a case in point. As a result we allowed our relationships with our allies to deteriorate, with adverse implications for our trade and investment at home and abroad. With the recent rise in east-west tension, Canada may well face increasing pressure to participate more fully in the defence of the western world. Our response would obviously have an important affect on our economy.

It is worth noting the significance of foreign policy and other non-economic developments for the Canadian economy, because there have been several occasions in the past decade when Canada, in pursuing its goal of independence, has taken a position without apparently giving much consideration to the effect on our economy. However, to pursue this point now would either complicate the discussion or belabour the obvious. So, I would like to focus more closely on the paper Professor Helliwell has presented.

In his introduction, Professor Helliwell emphasizes - rightly so - that 'there are no simple answers to how fast and how far the domestic economic structure should be adjusted in light of current international conditions.' He then proceeds to demonstrate his point with his analyses of two specific issues - interest rate policy in light of recent dramatic changes in U.S. interest rates and the pricing strategy for Canadian oil and gas. I found his analyses to be especially interesting because they highlight the complexity of the decision-making process in each case.

I do not propose to take issue with Professor Helliwell's analyses; he has done an admirable job of setting out the options available and the factors to be considered in choosing from them. However, when we attempt to relate his analyses and recommendations to recent Bank of Canada policy or energy pricing, it is important we do so in the right context. In this respect, we should take note of two developments especially. First, we should keep in mind that the world economy is in a very troubled state - with high inflation and sluggish growth prevailing - and the prospects for an early improvement are not promising. Secondly, we have had some experience in Canada in the past decade with efforts to insulate our economy from the effects of developments abroad, and the results were less than satisfactory. I want to elaborate on these two developments briefly.

Before 1979 it was widely believed that the period beginning in 1974

with the first large OPEC oil price increase was an aberration - that we had a few tough adjustments to make, but that the free world economy would soon resume its rapid expansion. More recently it has become increasingly apparent that the low growth and high inflation prevailing since 1974 are likely to continue well into the 1980s, and probably until new alternative energy sources are developed. This change in view has been triggered in part by the persistence of inflation and the difficulty most countries are having in dealing with it. More immediately it was triggered by OPEC's success in imposing a second major price increase for their oil in 1979.

OPEC's success in raising the price of oil last year is an indication that it takes only a small shortfall in the supply of oil relative to demand to provide a basis for substantial oil price increases. Since the OPEC countries have demonstrated their willingness and ability to control the supply, the probability of further substantial oil price increases - perhaps in the range of 5-10 per cent annually in real terms - has been greatly enhanced.

The possibility of a series of further large OPEC price increases in the years ahead raises the threat to most countries of continued payments deficits as well as high rates of inflation. Their probable reaction will be to adopt policies to slow the rate of economic growth and keep their houses in order so to speak. Under these circumstances the outlook for real GNP growth in the free world through to 1985 is in order of 2.0 - 2.5 per cent per year. This is not much changed from the growth rate prevailing since 1973, but is only half the rate attained during the 1960-73 period. In addition, average inflation rates could well be near the double-digit level through the early 1980s as they have been since 1974.

The scenario I've sketched is based on a consensus developed by IBM economists from the major countries around the world. It may be somewhat more pessimistic than the consensus currently prevailing among Canadian economists. However, even if it only approximates the real outlook, there is an important message in it. That is, slow growth and high inflation have taken on a greater degree of permanency in the international economy than they were believed to have a few years ago, and as Professor Helliwell notes in his paper, it seldom pays to insulate against permanent changes.

That brings me to my second point - our 1970s experience in insulating the Canadian economy from major developments abroad. Rapid

growth during 1972-3 in virtually all countries led to marked increases in the prices of internationally-traded commodities. As a result, Canada's terms of trade improved considerably during this period and the current account was near a balanced position. The improved terms of trade nevertheless presented a problem - strong upward pressure was exerted on the Canadian dollar exchange rate to the detriment of Canada's competitive position. To counteract the strength of the Canadian dollar and protect the competitive position of Canadian industry, our monetary authorities expanded the money supply sharply. When the world-wide boom ended in 1974, our government introduced fiscal measures to expand demand and offset the effects of the recession that was beginning abroad.

The combined effect of Canadian monetary and fiscal policies during the 1972-5 period was highly expansive. In retrospect it is clear that these expansive measures were superimposed on an economy that was already operating at high levels of capacity. As a result, they set the framework for a rapid rise in inflation and, ironically, the deterioration of our competitive position through rising costs and prices. While perhaps not without some benefits (it could be argued that Canada's real growth rate during the 1973-8 period was somewhat higher than abroad, i.e. 3.2 per cent compared to 2.5 per cent), the over-all effectiveness of our attempts to insulate our economy from first the boom and then recession fell considerably short of expectations. The costs mainly took the form of greater inflation and exchange rate instability which became the major concern of economic policymakers during the latter half of the 1970s.

Canada has made a great deal of progress in extricating itself from the economic problems of the mid-1970s. In the process, though, I suspect we have learned some respect for the constraints on our ability to insulate our economy from foreign developments.

In light of the policymakers' experience of the 1970s and the changed international outlook that I have described, what then are the implications of Professor Helliwell's analysis for evaluating recent Bank of Canada policy? If I have read his paper correctly, and at the risk of oversimplification, he would give the Bank high marks if Canadian interest rates rose in response to U.S. rate increases, but only so long as M1 growth continued within the 5-9 per cent target range. In fact, M1 growth fell somewhat short of the lower boundary between last September and March, suggesting that the Bank may have been overly zealous in its effort to

keep pace with U.S. rates. The shortfall in M1 growth is not large, however. To the extent that it reflects a reasonable attempt to reduce the risk of accelerating inflation, it would appear to be justified in view of the slow growth/high inflation prospects abroad and the experience of the early 1970s.

And what of the strategy for oil and gas prices? My key point here is that there is a high risk that OPEC prices in the early 1980s will rise significantly faster than assumed by Professor Helliwell. I doubt that this would change the results of his calculation of the rents accruing to Canadians under different pricing schemes, at least in relative terms. The best alternative would likely still be a gradual rise in Canadian prices toward international levels, with the import subsidy financed by consumers. However, it would increase the extent of the short-term leakages to foreigners that were noted by Professor Helliwell. More importantly, it would decrease the extent to which Canadian industry adapted its products and processes to an international market that puts a premium on efficient energy use.

Professor Helliwell concludes his paper with a note of caution - the appropriate measures required to insulate our economy from developments abroad 'may be hard to find and even harder to implement.' In my brief consideration of this subject, I have been impressed by the same need for caution, and I would endorse his warning as a sound piece of advice to leave with this conference.

Robin Boadway

The theme of this session is the extent to which Canada should insulate itself from external shocks, and Professor Helliwell has addressed the issue by drawing on the Canadian response to the recent increase in U.S. interest rates and to the rise in world price of oil. In so doing he has distinguished between temporary shocks and those that are more long-lasting. The interest rate rise may be viewed, at least with hindsight, as being a temporary shock, whereas the dramatic oil price increase is certainly permanent. The fundamental issues involved in analysing the response to the interest rate rise are primarily macroeconomic, that while the

rise in oil costs is a relative price change that can best be viewed as having microeconomic implications. I should like to apologize in advance for concentrating on the latter since my expertise in these matters, to the extent that it exists at all, is undoubtedly at the microeconomic end of the spectrum. Furthermore, my remarks will essentially supplement Professor Helliwell's and support his arguments since I can quibble neither with the numbers he calculates nor with the inferences he draws from them.

Let me begin with some rather general comments about the microeconomics of the adjustment of the economy to a permanent change in circumstances, and later consider the particular case of the rise in the price of oil on world markets. What I have in mind is an economy such as that of Canada, which is very open to world trade and for which the prices of a large number of commodities are dictated, or at least strongly influenced, by world markets. Given the set of prices established on world markets, there will be a certain mix of products that it would be efficient for the economy to produce and which the market mechanism would induce the economy to produce. Suppose now that the economy is faced with new circumstances that change the comparative advantage of production such that some sectors should expand and others decline. Almost all economists would agree that the economy is better off in the long run by following dictates of the market place and having resources re-allocated from one sector to the other. There are two caveats that ought to be borne in mind in saying this. The first is that the long-run welfare costs or gains from so doing (e.g. the welfare gain from eliminating various tax or tariff distortions, or the welfare cost of Quebec separation) are often found to be surprisingly low. The second is that the redistributive consequences of adjusting the economy to new circumstances may be unacceptable. I shall return to this below.

Given that there are long-run gains from allowing the economy to adjust to economic shocks, why is it that policy-makers so often either shield the economy from the impact entirely or cushion the shock? Examples of this sort of thing abound, from general policy tools like tariffs for protecting textiles, and DREE grants, to specific holding operations like loans to Chrysler. There may, of course, be many 'irrational' or self-seeking reasons for governments to do this. However, I would like to suggest that there may be two sorts of legitimate reasons for insulating policies, both of which have some merit in certain circumstances. The

first is that there are certain costs associated with the process of adjusting the economy to the new equilibrium, costs for which markets may not properly account. There are three categories into which the short-run costs of adjustment might fall.

ADJUSTMENT COSTS OF LABOUR

Usually labour will have to re-allocated from one job to the other and possibly even from one location to another. This will involve actual moving costs, the non-pecuniary disadvantages of the move, as well as the instantaneous depreciation of the specific skills accumulated at the old firm. In addition there may be periods of unemployment between jobs during which unemployment benefits need to be paid. All of these circumstances add up to a situation in which the opportunity cost of keeping workers employed in declining industries (or the shadow wage rate to use the terminology of cost-benefit analysis) may well be below the wage rate.

ADJUSTMENT COSTS OF CAPITAL

Long-run economic models treat capital as being mobile between sectors so that the given stock of capital can be re-allocated costlessly. In fact, that is not a realistic assumption in the short run. A significant amount of the real capital stock of firms is firm-specific. A fall in the fortunes of an industry causes an immediate depreciation in the value of its accumulated capital. An additional sum of real resources must then be devoted to re-accumulating capital elsewhere, and this process can take considerable time. These costs of re-allocating capital are usually omitted from calculations of long-run efficiency gains, but they are short-run costs that should be included in any cost-benefit analysis of the adjustment to shocks. A rather less obvious cost of adjustment, but a significant one, is the one associated with the stock of immobile real capital owned by households, especially housing. If workers have to move, the housing stock depreciates in one place and must be built up elsewhere, again with some time lag.

SOCIAL OVERHEAD CAPITAL

Industrial activity is always accompanied by some amount of social overhead

capital including roads, schools, hospitals, and so on. When industry is forced to relocate because of changing circumstances, this social capital becomes worthless in one place and must be re-accumulated elsewhere. This, too, is a real cost of adjustment, which must be taken into account in any benefit-cost calculation of industrial policy changes.

These adjustment costs are all short-term and must be weighed against the longer-term gains to be obtained from moving to an efficient allocation of resources. The net benefit or loss from insulating the economy from shocks will depend upon the particular case. One cannot say ahead of time that they will be positive or negative, even for such apparently distorting policies as tariffs. I know of no convincing calculations of the adjustment costs associated with shocks or policy changes in the economy.

Even if the short-run adjustment costs are high it may be desirable to insulate the economy temporarily so as to allow it to move to the new long-run equilibrium more slowly. Thus, one may wish to shield the existing work force with all its specific skills in the declining industry but at the same time induce new entrants to enter the rising industry. That is, policy should discriminate between in-place factors and factors that are being newly deployed. Such a task may not be easy.

The second general reason why one might want to insulate, and this one is stressed by Professor Helliwell, has to do with distribution. Any shock to the economy will cause relative price changes, which, in turn, will usually make some groups better off and other worse off. If the distributive consequences are judged to be adverse, and if no corrective action can be taken to redress the change, there will be a distributive loss to weigh against the efficiency gain of adjusting to the shock. Perhaps a stronger distributive argument occurs when, as is apparently the case with oil, a substantial portion of the redistributive gains accrue to foreigners.

The right policy for adjusting to permanent external shocks will depend upon the quantitative relationships among the long-term gain, the short-term adjustment costs, and the redistributive consequences. Economists have tended to concentrate on the long-term efficiency gains and have usually argued for letting the price mechanism run its course. However, that is not necessarily the best policy.

Having suggested that in certain circumstances there may be a case for interfering with the natural course of events and insulating the

economy from changes in external conditions, let me now suggest that in the case of the rise in the relative price of oil the case is strongly in favour of not insulating the Canadian economy. As discussed above there are two reasons why insulation may be desirable - to minimize the adjustment costs and to avoid adverse redistributive effects.

EFFICIENCY ASPECTS

An outside shock to the economy should be insulated against if the short-term adjustment costs outweigh the long-term efficiency gain of adjusting to a new pattern of comparative advantage. I would like to argue that the rise in the relative price of oil is not likely to change Canada's comparative advantage in production very much. On the contrary, preventing a rise in the price of oil may cause greater costs of adjustment as industries re-adjust to new circumstances than if the price of oil rose. My reasons for saying that are purely conjectural. In principle one would need a full blown general equilibrium model to investigate the impact of oil price changes on the structure of production, a model very much like the kind constructed by John Whalley, but with adjustment costs built into it.

At first blush, it might seem that a rise in the price of oil might hurt energy-intensive industries and help others. This, however, is a rather limited view of what happens in the world economy when the price of oil rises. All nations of the world are facing the higher price of oil and all, except apparently Canada, are adjusting to it. This implies that the world cost of producing energy-intensive goods will rise and so will their price. Assuming that we take world prices more or less as given, the rise in the price of energy will be partly recouped in higher output prices for energy-intensive goods. Our comparative advantage will change little and the required adjustment will be minimal. (There are obvious exceptions such as the spur to oil producers themselves and demand shifts away from the higher-priced goods and goods that use oil, such as automobiles.)

On the other hand, keeping energy prices low while the world prices of energy-intensive products rise is likely to change our comparative advantage. Helliwell has given us two examples of this in his paper. Not only will we be incurring the adjustment costs of reshaping industry in favour of more energy-intensive goods; we shall also be losing in the long run by locking our industries into an inefficient pattern of production,

which will eventually have to be adjusted .

The exact way in which the industrial structure will change depends upon the characteristics of the underlying production technology. Low energy prices will not necessarily favour Ontario-based manufacturing industries as is widely believed. If energy and capital are highly complementary, low energy prices will favour energy-intensive industries, which will also be capital-intensive. If so, capital could be attracted away from Ontario-based manufacturing industries to highly energy- and capital-intensive industries elsewhere as the price of capital is bid up. As I warned earlier, this is purely conjectural, but at the same time not out of the question. The point is that the adjustment costs of not letting the price of oil rise could be greater than those of letting it rise.

The other reason for preventing the price of oil from rising is distributive. On the one hand consumers appear to lose as the price of oil rises and that is 'bad.' At the same time foreign-owned oil companies gain and that is also 'bad.' Thus the price of oil is held down to enable consumers to capture some of the rents of domestically-produced oil (or to shield them from the higher cost of imported oil) and to prevent the leakage of rents to foreign producers (although not to prevent completely the leakage of rents to foreigners as Helliwell shows). The reaction of the public finance economist to those arguments is predictable: subsidizing the price of oil is a very inefficient and probably quite regressive way of distributing the resource rents. At the same time I do not see any practical reason why we cannot make the share of resource rents accruing to the oil producers whatever we want by tax policy.

Unfortunately, deciding what share of the rent should accrue to private producers is not the end of the matter. The big distributive hassles occur over the part of the rents accruing to governments. There are large inter-regional disparities in the distribution of resource rents of which everyone is aware and which have been discussed at length in this and earlier OEC conferences. If ours were a unitary government the rents going to consumers and rents going to governments would in a sense be more or less substitutable (except that giving them to consumers through lower prices would incur some economic waste). But in a federal system this is not so. Ontario citizens as taxpayers do not gain as much as Ontario citizens as consumers lose when the price of oil rises. This is due to the existing equalization scheme. Ontario has much more at stake in

the division of resource revenues between Alberta and the federal government than the other provinces do, since the others are partly compensated by equalization payments, the costs of which are largely borne by Ontario.

Under the present institutional arrangements it is clear that while Canada as a whole definitely gains in efficiency from moving to the world price of oil, the distribution of the benefits is such that Ontario definitely loses. I think the solution to the problem is not to throw away the efficiency gains for the sake of distributive gains, but to change the manner in which the rents are shared, especially the equalization arrangements. That, of course, is more easily said than done.

Discussion

QUESTION: When the oil shock hit in 1973-4, Canada made a decision to introduce the export tax import subsidy scheme which is expressed in the price, and therefore, in your terms, not to adjust. That might have been a perfectly sensible thing to do because we didn't know whether the oil price would be permanent or not; the problem is that we should have at the same time introduced a policy that would adjust towards the world price if it didn't adjust towards us, and make that policy contingent upon future developments; this would relate to your comments about monetarism and gradualism where we can't get outside the announced targets because that would destroy your credibility. Perhaps there is a case for making those announced targets contingent in some way on the international economy, and announcing what sort of contingencies would cause us to move outside of the announced band.

J.F. HELLIWELL: We were fairly close to having that system actually set back in the early 70s. If you hadn't had the 1979 doubling, the \$2 a year would not have been far off. Maybe just raise it another dollar or two and you would have been pretty close to 85 or 100 per cent of the Chicago price. In retrospect it was a mistake not to have made some features of the adjustment automatic.

Originally when the import subsidy and export tax were instituted, the export tax plus the 10-cent-a-gallon gasoline tax produced more than

the import subsidy required, with a little temptation to put that into the general revenues. My guess is it would have been very much better if the import subsidy and the gasoline tax had been tied together right at that time. The gasoline tax would have been set at the level required on a year-by-year basis to finance the amount by which the import subsidy exceeded the export tax, and that would have been understood and appreciated.

No one complains about the Syncrude levy, which does just the same thing for synthetic oil, and no oil user would complain about paying their share of the import subsidy if it had been going up steadily during this period. Such an automatic tax would have eased a fairly large proportion of today's problems.

QUESTION: My question is to Professor Helliwell. I was reading a paper the other day that had a very interesting statement: finally all the estimates of Canada's share of efficiency gain ignore considerations relating to Canada's alleged position vis-à-vis development of other energy sources, energy-conserving technology, and so on.

I get the feeling, Professor Helliwell, that in your equalization table you really haven't given much consideration to what will take place, especially in the eastern provinces, when the Canadian price reaches \$30 a barrel.

J.F. HELLIWELL: Are you suggesting the consumption of oil?

COMMENT: Consumption of both gas and oil.

J.F. HELLIWELL: The model that the calculations come from embody estimates of how responsive people are to prices when they decide how much to use. Like all of these estimates ours can be wrong, but they are certainly built right into the model, and of course that is where some of the gains come from, and in fact when the world prices are approached the amount of inefficient energy use is reduced.

I have good news and bad news about whether subsequent history has validated that type of model or not. The bad news is that in fact that model predicts, even given the increases in oil prices that we have had, that we should have seen more energy conservation actually happen than

in fact has taken place. So although the model is much better at forecasting energy demands from '74 to '79 than other forecasts made at the time, it now understates the actual amount of energy used in Canada. Thus it is a little hard to say there is going to be a lot more conservation than the model implies, because so far there has been less.

The good news is that I believe there are much longer lags in that kind of adjustment than past history has allowed us to estimate, and that we just don't have the best technology for energy-efficient ways of doing things. A lot of people are quite sensibly holding back, not just because the prices are low now, but because they are not going to scrap a freezer with two inches of insulation in order to buy one with two and a half inches because they know the right number is four. Similar reasoning applies in a lot more complex processes.

I have faith that the long-term elasticity really will be rather large, but it is hard to support that with hard data at this stage.

QUESTION: I am intrigued every time I hear references to triangles, and it is a little hard for me to let a reference go by without wanting to explore it a little more. I have here Table 1 that was in the paper, and I am afraid that the angle that I was giving on the screen was a little different and a little harder to see than the table you had up front, and what I would like to ask for is some clarification of the way one reads this table.

I think you were suggesting a ranking of the three policies in Table 1 on the basis of these total Canadian rents. It seems to me that would be inconsistent with the suggestion in the additional welfare literature in the sense that this ranking by rents would include a pecuniary phenomenon that is really just the growth phenomenon, which I perceive is column 4, which represents the welfare loss in traditional triangle analysis.

I would also like some amplification of the methods you have used to calculate these welfare losses, because there is presumably both a supply-side and a demand-side distortion in all of this. If you are dealing with energy, the demand-side distortion is in fact a little complex. I know you are working here with an open economy that is a taker of world prices, but even so some amplification of that would help.

Similarly the supply side distortion, it seems to me from the number that the distortion there is much larger. Some of the numbers I gave,

say, the tax distortions on frontier exploration are so enormous that one would think that is where all the welfare losses come from, and I would like to know if those are included or excluded.

J.F. HELLIWELL: These results do not apply to the frontier, so that any assessment of those costs and losses are simply not there. Our analysis does not rank the welfare results by the amount of waste that is avoided by a pricing policy, because the calculations are done in terms of national welfare rather than global welfare. So there are two things happening. With the higher prices there is less waste, so that the welfare, in some sense, from the game with nature is increased, but a good proportion of those gains flow to non-residents. So what you see in the right-hand column is the net of those two, and in some instances if you try to get too much through the price mechanism as a way of distributing things to Canadians rather than to foreigners the waste exceeds the redistribution effect, so it is essentially a combination of both of these.

Now there are lots of ways of quarreling with that. You might say that is too narrow a definition. You could either use an Alberta definition if you want to be a narrower, in which case you get a different ranking of these policies, or you could use a world definition, in which case you have another, and once you do that you start worrying about the world distribution of income, and you have to worry about a whole lot of other things. But you are right to bring up the fact that it is a particularly national way of looking at things.

QUESTION: I was at the fall conference, and I must say I am a little discouraged by the fact that we are still talking about equity and foreign ownership. I wonder whether we shouldn't also look at the fact that oil imports are rising, and the federal treasury is essentially bankrupt, and I am being asked to buy Canada Bonds and through taxes subsidize the import-subsidy account.

Is it not of greater concern that oil imports next year may be 600 000 barrels a day, that oil exports will be down to zero, and that the import subsidy account will be maybe \$4 billion, and that the capital markets will again be pre-empted by the federal government; could you comment on that?

J.F. HELLIWELL: The model would say, if it were asked, that the import subsidy would be about \$3 billion in 1980. Interestingly enough, the net position in oil end products is not as pessimistic as you suggested. The actual net deficit in 1979 on crude oil, natural gas liquids, and end products is 60 000 barrels a day, which is out of 1.9 million barrels a day of use, so it is not as nearly as large a fraction as is usually supposed. If anyone were to suggest that it could possibly be a net 600 000 barrels a day in 1980, I think that is just not possible at all, even with our rather constipated pricing policy.

The import of your question is: Should we not take this very seriously? and the answer is, you bet, and I am as worried as you are about the lack of progress towards resolving these things.

QUESTION: In Table 1, I am worried about ranking when you have those three alternative price schemes, and I have a simple question: given the data and the method of analysis, the differences between the highest and the lowest net Canadian benefit is something like 7 per cent, would you be confident enough on that basis to say which pricing policy is best for Canada?

J.F. HELLIWELL: I am never confident about these things. You are right to point out that these differences are not great, and that is another way of saying that the issues that are turning governments over in this country and causing talk of separation represents a very small proportion of the total amount of resources that are under discussion and of the total actual and potential income in this country. That is a good point to raise: that, although these numbers are very large, what separates the Ontario-based policy from the Alberta-based policy is not enormous compared to the total value of the resources. One reason for presenting these numbers is to expose precisely that. Now there is no hint that one of these policies is optimal and the others are not. Different assumptions and different world developments could change some of these things.

The point I am making here is the way in which these two kinds of effects are traded off against each other, and within the range of policies that are under discussion, you can see how if you went to one extreme you would probably be worse off than if you went to the other edge, and in either case you might be worse off than something that involves a little

bit of both. That is the essential point I would like to leave you with, leaving the possibility that something even better could be found.

QUESTION: As a politician that has to deal with these two problems every day, I am intrigued by two things: the first is that all the questions have been about the oil part of the paper, and virtually none about the interest rate part of the paper. The second thing I am intrigued by is the discussion of elasticity of demand versus price, something that has been preached to me quite a bit by the people near me.

I just got back from Great Britain, where a year ago petrol was selling for 82p a gallon; when I was there last week I paid 1.42 a gallon, which is about \$4 Canadian. I know it cost me \$54.00 for half a tank of gas; that much is indelibly printed on my mind. And yet fuel consumption in Britain increased by 7 per cent in the time between those two price changes; that was compared with 2 per cent the year before. I wonder how that corresponds with some of the theories I have been listening to today.

J.F. HELLIWELL: In Canada during the years when the price of gasoline was going down, the miles per car steadily went up, and ever since the real price of gasoline has been going up, the miles per car have steadily been going down, and this certainly applies across countries as well. One-ninth of the oil being used in the world is being used in the American car, and when you remember what a small fraction of the world population lives in the United States, you face a very worrying problem. One of the things that is happening is the Britain is becoming a more car-owning and car-using society, and even though they have very high gasoline prices and much lower average use per resident or per car than in Canada, it is still creeping up. Greater gasoline use in Britain reflects an adjustment to a lifestyle that we are now trying to back away from but a lot of other countries are still aspiring to.

There is really an underlying worry about how the world energy-use structure is going to come into line, and it is much bigger than the problems that Canada faces.

COMMENT: As a politician that has to deal with the kinds of problems that you have discussed today I am very often torn between the accept-

ance of the kinds of statements you have made and the lack of acceptance by the people whom we are elected to govern.

In fact the real limitations on a politician are the attitudes of the public, and unfortunately many of the opinions that you are stating so eloquently today have apparently not been accepted by most Canadians. You might be surprised to know that many politicians accept them readily and are doing their best, while keeping their jobs, to convince people that it is necessary to tighten up consumption. I am delighted to see that we in Canada, with our highest per capita consumption of six gallons per person per day in Ontario of petro-chemical-petroleum products, have probably the most room to make the savings that are so essential if we are going to keep on having a supply.

I had to give a speech in Calgary last year to defend the Ontario position, and it was a difficult place to give such a speech. We tried very hard to point out that the Canadian situation probably wouldn't be accepted until there was actually a shortage to bring reality to many of the people who don't believe that is a possibility. I suspect once that happens the question of price may become much more academic and less a political problem.

Rapporteur's comments

Michael Spence

A rapporteur in a session like this is expected to summarize what has gone on. I told Tom Kierans earlier that I thought this was an impossible task in the case of this conference. I am going to try to do what I can. I thought a lot about it to-day as I listened to the papers, having read them all carefully. The conclusion I came to was that if you defined the subject broadly enough to include everything we have heard, then there were obviously some gaps. Then I tried to narrow it down but that excluded some things. You will understand my dilemma as I go along tonight I'm afraid.

I have one question to address to my economist friends before I launch into a summary. I have heard several references to negative-sum games. That concept has not trickled down to my neck of the woods yet. We continue to operate with the concepts of constant-sum and non-constant-sum games. Before I leave here to-night, perhaps someone will explain this new concept to me.

I am a little surprised that in a country like Canada, which has an open economy and one that is heavily dependant on foreign events and markets, the business community did not participate in larger numbers. I do think that the things that were discussed in the conference are of tremendous importance to Canada. It seems to me crucial for Canadians to be more than normally conscious of events and opportunities in the world economy.

My only other reservation about the conference (and this is not intended to be a criticism of what we have heard today) is that we could usefully have talked a little bit more about specific industries and sectors. Although there are some forces in the world that operate more or less uniformly on people, industries, and corporations, there are some rather interesting differences among sectors. For example there are substantial

differences in rates of growth as you look across industries and sectors in the economy, and I am going to try to talk briefly about those later on. I found these papers to be interesting and informative and, as I said before, they cover a rather broad area. Although I am a technically trained economist and perhaps had a slightly easier time listening to some of the presentations than some of you did, I think we could agree that there were some important points made in the course of the conference. If you will permit me I am going to try to review some of them. There are two rather different sets of ideas that we were exposed to in the last day or so. One has to do with the macroeconomic environment. So let me focus on that first and then I will turn to what in my notes I have called industrial strategy/microeconomic policy, which is a controversial subject, as you undoubtedly already know.

On the macroeconomic front, owing largely to factors that are exogenous and external to the Canadian economy, similar patterns and problems will characterize most of the developed industrial economies in the next ten years. One is that we are going to have, by historical standards, relatively slow growth rates, 3 per cent I think is probably optimistic. We are going to have inflation that is due to a number of factors, not the least of which are further large relative price changes (in natural resources relative to other goods and services for example) combined with the familiar downward rigidity in prices, and the cost push component that occurs when factors of production try to make their incomes keep up with the CPI.

We are going to have persistently and stubbornly high levels of unemployment, partly because the composition of the work force is changing. A number of factors are going to make inflation stubbornly resistant to change. The basic reason is that the political cost of eliminating it through macroeconomic policies is simply too high.

The interest rates are going to be responsive to the rate of inflation and, although they have done remarkable (and to me incomprehensible) things in the past two or three months, they are not going to go below the rates of inflation; and the rates of inflation are not going to go down significantly as long as we have relative price changes of the type experienced in the past decade. The projections that Tom Wilson made for us and the subtleties that he recounted better than I can are facts of life that we all have to withstand; the only comfort is that we will have to live

with them with most other people and most other countries.

The relative price changes are particularly interesting because they cause major disruptions in some industries. I am not speaking now about just Canadian industries. Some of these disruptions will be serious problems for Canada. The automobile industry is I think the best current example. It is the one everybody has on their minds, but we are going to see more of that, I think. It is coming as a shock to your neighbours to the south that established industries can get into that much trouble that quickly.

I am going to refer to the automobile industry several times tonight. You all know Chrysler is in trouble. My personal view is that that trouble will not be easily overcome. If you look at the North American performance of the Ford Motor Company, you will discover that company is also losing market share fairly rapidly. In the not too distant future Ontario and Canada will have to face some major dislocations in the automobile industry. It is not difficult to find people in the marketing world who will say that European and Japanese manufacturers could take more of the North American market if they wanted it, and that only self-restraint is causing that not to happen. A counterview is that General Motors is going to be the dominant player in the automobile industry to the exclusion of both the Europeans and the Japanese. My guess is that energy prices have raised product development costs and minimum efficient scale in that industry to the point where a major world-wide consolidation is almost inevitable.

It is indicative, however, that that kind of problem is generated in the U.S. industry and it creates a problem in Canada for which there are few if any easily identifiable policy instruments. I think I would be remiss if I did not mention that some of the problems that we are going to face even at the industry level will be problems that are not confined to our economy and for which we have very few policy options. We can bail Chrysler out in Canada, but in the absence of complicated contractual arrangements, that's like throwing good money after bad. That is going to happen more often.

Now there are forces at work in the world that imply greater competition internationally; there will be not a few American industries that get into international competitive trouble: many of the smaller companies in those industries will get into trouble fairly quickly; I think that is what is

in store for the 1980s. Some of the problems Doug Hartle was talking about having to do with the political implications of supporting or not supporting such companies are very pertinent. One of the things that ought to be emphasized is that most of the things that Tom Wilson and John Helliwell have told us about are events over which we exercise little or no control. Perhaps Canada can insulate in the short run; you can take the view that American interest rate fluctuations are extreme and ignore them to some extent. But basically industries will fail and unemployment will be exported to Canada. These are not events we are going to prevent by either macro or microeconomic policy. I say that because I have at least some residual faith in the concept of something that might be called an industrial strategy. But what I think I ought to say is that over a ten-year horizon what I think of as an industrial strategy, based essentially on a corporate model, is not going to be a solution to this sort of problem. The objectives of an industrial strategy should be longer-term.

Let me turn to one point that was talked about this morning in a paper by Purvis and Flatters. Canada is going to become relatively rich as a result of the rising prices of natural resources. It does not matter exactly how rich we are going to be; all you have to do is look around at the natural resources that the major industrialized countries have to notice that on a per capita basis we are very well off. The greater the relative price increase in petroleum and other products like that, the more significant this effect will be. That is something we ought to be grateful for. The United States shares in this to some extent. There are some side effects however. One of them is that we will have an increasing comparative advantage in natural resources, which means that we produce them more cheaply than anybody else. Whenever you have a comparative advantage in something, by definition you have a comparative disadvantage in whatever is left over, and in the Canadian context that means manufacturing. That creates the possibility for what Professor Purvis called this morning the Dutch disease. Now the Dutch disease has two components. Rising natural resource wealth will cause the Canadian dollar to appreciate, and that will make imports relatively cheap so that Canadians will start importing more and buying domestically less. That will hurt some of you. Foreigners will find Canadian goods more expensive and import less from Canada, so that Canadian exports will fall.

If you look at the Canadian trade statistics you will discover that the latter effect cannot be all that important, because we are not exporting much from secondary manufacturing. Canadian exports of secondary manufactured goods, excluding autos, are about 15 per cent of total exports. That is roughly 4 per cent of GNP. Interestingly, exports are about 4 per cent of shipments in a typical manufacturing industry in Canada. Right now we are running an economy that essentially sustains itself on natural resources: we export them and we import manufactured goods and to some extent services. The most serious threat, if there is one, is probably the import substitutions problem. We might want to guard against some of that on a transitional basis.

Let me express one other view on the macro front, one that concerns GATT. I'm not going to be able to defend this with great rigour, because it would take too long. But I believe that GATT is an important process in the long run that is going to have few pronounced short-run effects. The nominal tariff reductions as we were told to-day are small, and the non-tariff barriers are so numerous and so easy to hide that they will not be removed in multilateral negotiations. I do not conclude that non-tariff barriers are incapable of being reduced. My conclusion is rather that they will be eliminated as part of a strategic game played between major industrial countries. It seems to me more likely for example that Japanese non-tariff barriers will come down when the United States closes American markets to the Japanese, indicating that they will be open when the Japanese market is open. I think there is some reasonable possibility that that will happen. The mood in the United States, if I may digress slightly, is drifting in this direction. In the past the United States was the major market in the world: now it is not the only game in town. When they figure that out south of the border I think the initial reaction is likely to be protectionism. But in the not too distant future you will find the following reaction in the United States - if you want to participate in this market we'll compete with you, but the quid pro quo is that we compete in your market. At that point you will discover that the Japanese telephone company may start buying equipment from Western Electric and vice versa. If you read the paper by Whalley carefully, you will discover that the Toyko Round eliminated or reduced preferential treatment of domestic firms by governments. But the agreement explicitly excluded agencies, including telephone companies. A. T. and T. continues to buy

most of its equipment from Western Electric. And similarly in Japan and Europe. But that may change.

Let me try to summarize. I believe there is some reasonable possibility that the actual tariff barriers (as opposed to the nominal ones) will come down. That is important for Canada. As the paper by Wonnacott and Wonnacott made clear, in the industries in which Canada could be a significant world-wide participant, the single most important prerequisite is access to the world markets, because the single most important feature of the Canadian economic environment is that its too small. In industries that have pronounced learning curves, large economies of scale, or substantial product development costs, the Canadian market is not by itself large enough to support a world scale competitor. Mr. Grossman was right in arguing that there are some industries that can be developed by eliminating internal barriers. But they do not include autos or telecommunications, or computers. If we want to have an interesting role as a specialist in some sub-set of the latter markets, we are going to have to have access to world-wide markets. That is our best hope. Whatever strategy we can bring to bear to help increase access to non-domestic markets is well worth undertaking.

I think that is the main proposition that I want to offer for debate. Many of the interesting high growth industries in the United States increasingly have formidable foreign competition. And they are reaching to it. In the face of these forces, there are only two ways for Canada to stay involved as a producer. Either we drop the tariff and attempt to be part of the world-wide market, or we raise the tariffs and protect a relatively inefficient domestic industry serving a small market.

I may sound like a free-trade advocate and I suppose I am. But the reason is not so much a matter of principle as a matter of strategy. I think it is important for a country to have a reasonably diversified portfolio of industries, some of them high-technology, some of them rapid-growth, and some that absorb engineering, technical, and scientific talent. I do not think a small country can have such a portfolio without access to world wide markets in the 1980s.

You have had a discussion of what is called industrial policy for several years in Canada. There has been a substantial amount of nonsense written about industrial strategy. Unfortunately what I think is nonsense you may think is brilliant and vice versa, so I can get away with

saying that, as long as I do not get particular about what the nonsense is. What I really want to say is that the Wonnacott paper, to my way of thinking, did an effective job of subjecting to evaluation some of the propositions that have been put forward as reasonable parts of an industrial strategy and disposing of them rather effectively. That does not mean that there is no case for a public sector R and D policy; it does not mean that in certain sectors you might not want to re-purchase some foreign-owned assets. But to identify the problem of industrial development with R and D spending or foreign direct investment is at best misleading. I congratulate these authors on a detailed and useful critical review.

Let me close by making some observations that I think are consistent with the spirit of what has gone on in the conference, having to do with what I think of as industrial strategy, or microeconomic policy. Doug Hartle made some very interesting arguments at the start of the conference about what Canada could or could not do in this area. The message I took away was that politicians could not resist bailing out failing industries if the industries were big enough. Then he suggested that if you have limited resources and you have to bail the troubled industries out you cannot invest in new sectors. And even if you could, you would have to pick winners. I have a different conception of industrial strategy. But I do agree that we are going to be bailing out troubled industries. I even think there are sound welfare arguments for doing it.

One of the things that strikes me is that industries are really very different from each other. Where strategic opportunities lie depends on the structural characteristics of particular industries. We have spent some time listening to generalizations, and generalizations are important, but specific opportunities are important as well. I heard a discussion this afternoon of anecdotal evidence. Anecdotal evidence is examples - I say to you that IBM had a dominant market share in the world-wide computer industry because of high development costs on the hardware and software side combined with brilliant strategy. The world is changing, the semiconductor people are integrating forward; there is some interesting foreign competition developing. I conclude from all this that there are some strategic opportunities in this industry. Someone might say to me, 'Yes, but what does that prove?' I don't want it to prove anything. The computer industry, or computers and telecommunications together present an

interesting set of opportunities. I do not want you to think of those industries as the one example that should convince you that the same things are true of autos or something else: it is not true. I simply want to argue for anecdotal evidence; there are perhaps too few anecdotes and too much scientific generalization. Obviously what is needed is some combination of examples and statistical studies of samples of industries using census data, of the type cited by the Wonnacotts in their very useful paper. When somebody stands up and says, 'I have an interesting industry here that I have spent some time studying,' we ought not to respond, 'Well that isn't scientific evidence' and ignore it. It is an interesting industry if it has sales world-wide of \$8-10 billion and high growth even if it is probably different from every other industry in the world, so that it is not an example of anything.

I think there are a number of industries that have potentially high growth, potentially great improvement in productivity from the Canadian point of view, and potentially large increases in exports. Those industries are the ones for which we should try to find access to foreign markets.

I referred earlier to Mr. Grossman's remarks; I did not disagree with much of what he said, but it would be unfortunate if we were to leave tonight with the notion that we can solve most of our problems internally by reversing the trend toward the balkanization of the domestic market. The balkanization of the domestic market is a distressing prospect for a country that is this small, but once you have got it unbalkanized, if that ever happens, there will remain some additional targets of opportunity out there in the form of markets that are a little bit larger than those in Alberta or British Columbia.

I did promise that I would say something about what an industrial strategy ought to be, since I think the authors did a good job in the course of the conference in alerting us to what an industrial policy probably ought not to be. To me industrial strategy is the kind of long-range strategic planning that well managed corporations do. That kind of planning tends to be focused on activities that have two characteristics: they absorb small amounts of resources in relation to corporate resources in the short run and they generate relatively small returns, if any, in the short run as well; that's what long range means. Exxon Corporation is paying a fair amount of attention to word processing, telecommunications, and computing these days. They may not succeed because that is a hard

business to be good at, but they are working at it. You and I could hunt around Exxon's balance sheet and income statement all day to try to find those activities. Somebody will say, 'In the next ten years everything interesting that happens to Exxon is going to have something to do with petroleum products and OPEC,' and that would be right. Someone else may say, 'It would be interesting in Canada to take a look at our engineering education to make sure we have the capability to do something in telecommunications or electronics or whatever it is that's coming in the area.' We might examine our industries and see whether there is any merit in making some preliminary investments or providing some public sector support. Someone will then say, 'None of that will solve our problems in the 1980s.'

Of course we should be worried about the 1980s. But we should be worried about the first part of the twenty-first century as well. In the first part of the twenty-first century IBM's main competitor may be EXXON, or it may be National Semi-Conductor, or Intel, or it could be a lot of people, including some folks in Japan. Whoever it is, it will be someone who is investing carefully now. Industrial strategy, to me, has something to do with making that sort of long-term investment. Now, let me go back to Hartle's paper because I think he cast a cloud over the proceedings today with an effective set of arguments about the difficulties. I maintain that industrial strategy in this sense is feasible in a fairly invisible way at least in the short run. I do not think it has great benefits for people in public life because it is not going to produce much that the public can see. But I do not think it is a very costly activity: it is something that leaders can be quietly proud of if they have worked at it because in twenty-five years it will be interesting. But it will not get them elected. From a political standpoint, it does not rank in importance with the problem of where people's jobs are going to come from. But neither is it likely to be politically costly or expensive.

Let me close my remarks by saying something about the concept of comparative advantage. It is common in economics to assume that comparative advantage is something that is exogenous to the model, meaning that it is a feature of technology, something that is true about the world, at least at a given time. We have a comparative advantage in trees (or we used to until the southern United States discovered they could grow them fairly quickly) and in petroleum. But the point I really want to make is

that comparative advantage, meaning what you are really good at, is something that can be invested in. When you look around the world you discover that there are lots of countries that have become quite good at investing in their comparative advantage. If I had told you in 1970 that Japan would have a comparative advantage in automobiles and something that is rapidly approaching a comparative advantage in semi-conductors, I think you would have either laughed or left for home. But it is true. They invested in it. It is true that the Japanese example is not applicable to Canada because Canada is much smaller, so that some of the strategies the Japanese pursue (protecting the domestic market, building their cost advantage in the domestic market, and then going abroad) is not an option for us. But the discussion should not stop there. No one now knows what the answers are: you need the best brains in the country thinking about it. There are lots of bad answers; we have heard some useful discussion about why they are bad. We have also heard a lot of good evidence, not only about what is going to happen to us but about some of the things we ought not to do. Some of the policies that were criticized are policies that should not be pursued in isolation. For example, there has been a lot of talk about consolidation and rationalization. If you consolidate or rationalize a Canadian industry that has a tariff protecting it, the industry will become more profitable. What you have to do instead, if you are going to rationalize a Canadian industry, is to drop the tariff simultaneously so that it is both more efficient and competitive. Furthermore you need to seek to diminish the barriers to entering foreign markets so that the firms can become cost competitive through expansion of their shares of foreign markets. My point is that rationalization and trade policies are an integral part of the strategy and should be discussed together. I believe we are making some progress in learning how to think about industrial development policies. It is not easy, but the world is changing fairly rapidly and it is important. The papers that we heard today, technical as some of them were, constitute a substantial contribution to the debate.

Discussion

COMMENT: I stand here as a representative of a much abused minority group: I am a public servant. I have had sufficient training as an economist to be recognized by at least some of my peers as being one, and the other singular stripe of being in the business of attempting to advise decision makers and government about something called policy. I was very grateful for your remarks, in bringing out the difference in problems. There is - at least in the minds of the decision makers - a difference between changes at the margin and something where a major element of your industrial structure gets into trouble for reasons you really did not have any part in or could not have foreseen. I can recall years ago when I walked through an airplane industry in this country, acre after acre of the world's most sophisticated machinery for making the world's most sophisticated parts doing absolutely nothing. There were engineers by the acre working on a project that they had no sense that would ever come to fruition. All of those events nobody could have predicted: the world had changed and on behalf of those who seek to do the best they can under very difficult circumstances, Michael, I thank you.

MICHAEL SPENCE: It's easy to second guess these things. In planning, the best one can do is pick up the evidence early and do what you can with the signals. But guessing when the surprises will come is not something anybody can reasonably be expected to do. I do not think there have been failings of that type in the Canadian context.

You reminded me of one thing I wanted to say. I think industrial strategy from the public sector point of view consists largely in having the analytic capability to figure out what is possible, and then to take the steps (which are thoroughly limited in a policy sense) to make that possible. A lot of it has to do with responding knowledgeably to the private sector's initiatives. The task is not to pick winners - that is not the public sector's job; that is what the people in business are supposed to be doing, and they are generally good at it.

COMMENT: There is the sense that good strategy is the sum of a hundred

good decisions, and a bad strategy is when fifty of them are wrong.

QUESTION: Sir, I come from the most private of private sectors; I work for a trade association with twenty chief executive officers on the board - the Electrical and Electronic Manufacturers' Association of Canada. I asked myself what did I learn in the full day and the evening I spent here. A friend of mine from the oil industry was telling me that the economists in the oil industry have moved up to management level in the last five years because of the continuing flow of challenges and different theories from the universities and civil service. I share his concern and his viewpoint that a tremendous flow of different options come from the universities and the civil service about what ought to be in the real world. I do not hold anything against academics and I call myself an economist of sorts, but something that struck me throughout the day was that there was a tremendous gulf between the real world and what was being espoused as possibilities.

Economists are very right in their analysis of the past and present, but when it comes to the future and when they postulate and use regression techniques and come out with theories that ignore the realities of the wealth creation process, as a man who represents businessmen, I feel very concerned. When I heard about the theories about R and D and the protectionist policies, and the adjustment process and when someone shrugged their shoulders and said one sector had lost 135 000 jobs in an adjustment process, I feel very concerned, because I do not think we can shrug our shoulders and drop 135 000 jobs.

MICHAEL SPENCE: You raise a persistent problem. I have two thoughts on it. One is that it is partly a language problem. What is talked about by economists can often be expressed in terms that are relevant to business decisions. I teach corporate finance as well as economics, and as a result am intensely aware of the language problems. I think the gulf sometimes appears larger than it is. That is my one reaction. The other is that the language of economics makes business decisions sound less complicated than they are in reality. It does this because it is usually focused on market phenomena and not business decisions. This also creates communication problems. As regards the loss of 135 000 jobs, it depends on the size of the country: in Luxembourg that is a disaster and

in Ontario it is really a disaster too. I hope I did not say anything that suggested that that was unimportant. On the other hand over long periods of time, as distinct from two to three years, when I think we both will and should intervene, we are going to lose industries. I do not think yours is one of them, but we are going to lose industries of those dimensions. Given the kinds of relative price changes that are occurring in the world, it almost has to happen. The problem is to let it happen slowly enough to give people, who are the most important thing in the end, chances to invest in new things. It is a very complicated subject how you do that. But I think that is the way one tries to think about it.

DOUGLAS HARTLE: You mentioned the possibility of positive-sum games. I don't want to use that terminology, but let's refer to the communications industry. Canada I think has had the first and foremost cable industries in the world. And there was some fight about pay T.V. These firms were diverted to testing in the U.S., which they are now doing. That industry is no longer developing in this country; it is now developing in San Francisco and Los Angeles, and capital is moving that way rather than to Canada. The Canadian contents requirements are being gradually made irrelevant because of satellite communications. I would have thought in almost all of these areas we had natural advantages, at least at the outset.

But in each case, for one reason or another, we end up with policies that do not allow us to reap the benefits for very nationalistic and/or provincial interest cases. In this area we do not allow the market to work out of the positive side. If we could put together particular industries without being too explicit about how restricted the outcome is to be, say if we are going to support the telecommunications industry, I expect that everyone producing television sets will immediately rush in and expect support. If we put together the framework within which these changes take place and leave it alone until they can take hold, we would be in a lot better shape. For example, computer software: we have some of the best places in the world teaching computer languages and so on right here in Toronto. But most of the graduates have to leave for the United States. We have a copyright problem there.

It seems to me we constantly frustrate the development of the positive things. I don't think it is possible politically to identify particular individual sectors for growth, but at least implicitly it would be possible to

identify opportunities. We have to get around these self-made barriers. How one does so with the interplay of the politicians, interest groups, and so on is an enormously important problem that economists in this country refuse to address. They want to talk about it in general terms.

MICHAEL SPENCE: I don't disagree with you; I think its a good point. First of all I don't think we can pick - except in very broad terms - the high-growth sectors. What we want to do in principle is sweep away the barriers, and you I think gave a very effective description of those barriers. However, I don't think we should regret foreign direct investment by our cable companies; after all, I bet it's pretty profitable and likely to yield some interesting and good returns for Canadians.

Let me also point out that the history of regulatory impediments to the cable industry in the United States makes Canada look like an unregulated industry. That was a long hard battle that was won about one year ago in the Federal Communications Commission. Before that there was not much development of cable, and if you ask the American cable industry why they are being beaten out by the Canadian cable industry, the answer is that the Canadian cable industry is going down a learning curve because they were developing when the Americans were waiting for the go-ahead from the FCC.

DOUGLAS HARTLE: Well I don't object at all to them testing in the U.S., if they can do the cable business better in Syracuse and San Francisco, I'd sooner do that than try to buy out American investment in Canada. What I do worry about though is that this was an opportunity of taking the funds that were available in Canada. We have all kinds of - let's say movie concessions in the tax system. I would suspect that one of the sensible things to do was to start thinking only of the software but also feeding the maw of pay television and the whole communications thing. I think we are getting absolutely nothing out of that; in essence we are selling movie sets to third-rate actors to produce fifth-rate films.

MICHAEL SPENCE: I won't disagree with that; in fact that was one of the things I was going to say. When you face tariff and non-tariff barriers going into another country, but you expect that they will come down and you want to start investing now in anticipation, it is not unheard of to

subsidize exports.

QUESTION: I would like to take Professor Hartle one step further and perhaps go on to what Mr. Grossman said. It seems to me the problems in the cable industry are more or less federal, provincial, and inter-provincial problems, and to take that to the stage that Mr. Grossman was talking about, the internal trade barriers are very important, the federal-provincial squabble over resources are very important, and we can't get to the stage of taking advantage of our comparative advantage before we solve some of these internal problems.

MICHAEL SPENCE: Well again this may be a bias of mine, but I basically disagree with that. I think there are some industries where clearing away impediments in the domestic market will yield benefits. But there are lots of industries in which that is substantially irrelevant. I don't disagree with Mr. Grossman. But what I resist is the notion that internal balkanization is the only or the main problem. It is true of some industries and not true of some others. We can surely get our minds to think about the full range of market types, and to develop policies that are sensitive to the differences among industries and sectors. So by all means let us reduce internal trade barriers, but not to the exclusion of external ones.

T.E. KIERANS: I think there was a hidden agenda here to-day and I think the hidden agenda was the issue of nationalism. It seems to me that those who have a claim to be nationalists in a constructive sense in this country, have either a lot to accomplish and a lot to do, or a lot to answer to in the very near future. I speak not as an economist, but as an investment banker, and I speak from a pragmatic point of view. I look at what our cable industries and our real estate industries have done. Eleven of the twenty-eight so-called independent oil and gas companies in Canada are clients of mine, and their rough commitment to the United States market, in terms of moving down drilling dollars, will go from about 7 per cent to about 25 per cent this year, maybe 30 per cent. Of course our cuts are not going to catch up to us for a while, but it's a reality.

Mining is another factor of course; telecommunications is another; engineering consulting another. There's an awful lot going on out there.

A second angle on what is going on of course is the Tokyo Round,

whether people are taking use seriously, bilateral trade negotiations, and so on.

We have just come out of a referendum in which many of our best and our brightest have gone into Quebec in two languages and said there was much more to be gained from a larger involvement. I put it to you quite seriously though that I have read very little nationalist literature in a long time that indicates to me there is anything other than a xenophobic reaction to these kinds of challenges that we are facing. I speak not as an internationalist, not as an anti-nationalist, merely someone who is interested in the airing of ideas. I think it's now or never and I really think that an element that comes out of this conference is - are we up to that kind of a challenge, or are we going to be retreating into ourselves, until we have nothing more to show for it.

I have said to a number of you here, in private conversations, that if I had to bet I think we are going to get more protectionist and more xenophobic. What I say is a very deliberate challenge and I will stand up at other times and speak to it, but I'm saying quite clearly that I do not think that the nationalists have begun to meet the challenges that we have discussed to-day.

Panelists and speakers

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KEVIN CLINTON

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RONALD J. WONNACOTT
Professor of Economics, University of Western Ontario

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